Revised 2011 Annual Groundwater Monitoring Report Taylor Lumber and Treating Superfund Site Sheridan, Oregon

Prepared for: Oregon Department of Environmental Quality

September 14, 2011 1843-00/Task 3



Table of Contents

| 1.0 INTRODUCTION | 1 |
|----------------------------------------------------------------------------|---|
| 1.1 Background | 1 |
| 1.2 Scope of Work | 1 |
| 2.0 SUMMARY OF FIELD EVENTS | 2 |
| 2.1 Well Inspection and Headspace Screening | 2 |
| 2.2 Groundwater Elevation Measurements | 3 |
| 2.3 Groundwater Sampling | 3 |
| | |
| 2.4 Handling of Investigation-Derived Waste 2.5 Deviations from Work Plan | 3 |
| 3.0 MONITORING RESULTS | 4 |
| 3.1 Groundwater Elevation Results | 4 |
| 3.2 Groundwater Analytical Results | 4 |
| 4.0 DATA EVALUATION AND CONCLUSIONS | |
| 5.0 REFERENCES | 5 |

Tables

- 1 Groundwater Monitoring Program
- 2 Groundwater Elevation Results
- 3 Groundwater Analytical Results

Figures

- 1 Site Location Map
- 2 Monitoring Well Locations
- 3 Groundwater Level Elevation Contour Map

Appendices

- A Field Notes and Well Sampling Sheets
- B Copy of Ash Creek 2011 Groundwater Monitoring Work Plan
- C Oregon Laboratory Certification, Laboratory Analytical Report, and Data Quality Review
- D Trend Plots for Select Wells

1.0 Introduction

This Groundwater Monitoring Report describes the results of annual groundwater monitoring activities at and in the vicinity of the Taylor Lumber and Treating (TLT) Superfund Site located at 22125 SW Rock Creek Road in Yamhill County, Sheridan, Oregon (Site; Figure 1). This report was prepared for the Oregon Department of Environmental Quality (DEQ) under Task 3 of Task Order No. 57-08-28. The monitoring activities described in this report were conducted in general accordance with the Groundwater Monitoring Work Plan submitted to DEQ on April 22, 2011 (Work Plan; Ash Creek Associates, Inc. [Ash Creek], 2011). The Work Plan was technically based on the *Long-term Groundwater Monitoring and Reporting Plan - Taylor Lumber and Treating Superfund Site* prepared by the United States Environmental Protection Agency (EPA) in March 2010 (LGMP; EPA, 2010). The Work Plan was prepared to be fully inclusive of the LGMP; therefore, there are no significant changes to note between the LGMP and the Work Plan.

1.1 Background

The Site is a wood treating facility that was operated by TLT from 1946 until 2001, when TLT filed for bankruptcy. Pacific Wood Preserving of Oregon (PWPO) entered into a Prospective Purchaser Agreement (PPA) with the U.S. Environmental Protection Agency (EPA) and purchased the wood treatment portion of the facility. An Amendment to Agreement and Covenant Not to Sue between EPA and PWPO was finalized on May 26, 2011, and an Amended PPA between DEQ and PWPO was finalized on June 7, 2011. PWPO began operations at the Site in 2002, treating wood using copper- and borate- based solutions. Beginning June 7, 2011, PWPO began using a pentachlorophenol solution to treat wood.

A Record of Decision (ROD) for the Site was signed on September 30, 2005 (EPA, 2005). In accordance with the ROD, contaminated soils have been removed from the Site. However, contaminated soils and groundwater remain within the treatment plant area at the Site, enclosed by a soil-bentonite barrier wall. A low-permeability asphalt cap has been placed over the entire area enclosed by the barrier wall, which impedes the infiltration of stormwater into the groundwater located within the barrier wall. Four groundwater extraction wells have been installed within the barrier wall to stimulate an inward hydraulic gradient and prevent water from rising above the cap (EPA, 2010). The ROD identifies pentachlorophenol (PCP) as the contaminant of concern (COC) in Site groundwater (EPA, 2005).

1.2 Scope of Work

The scope of work was completed in general accordance with the Work Plan (Ash Creek, 2011). The following activities comprise the scope of work as summarized in the Work Plan:

- For health and safety purposes, measure organic vapors in the well headspace prior to monitoring and sampling activities.
- 2) Observe and note well conditions in the project field notes (Appendix A).

- 3) Measure water levels in Site monitoring wells as well as in extraction wells PW-01 through PW-04, located within the barrier wall.
- 4) Measure water quality parameters prior to sampling to determine water stability during purging and to qualify the representativeness of the samples.
- 5) Collect groundwater samples for PCP analysis from 19 monitoring wells located outside the barrier wall.
- Collect groundwater samples for PCP analysis from residential wells RW-01 and RW-02.

These activities are discussed in detail within this report as well as any deviations from the Work Plan.

2.0 Summary of Field Events

A field representative from Ash Creek conducted the 2011 annual groundwater monitoring event at the Site from April 25 through April 27, 2011. Work was conducted in general accordance with the Sampling and Analysis Plan (SAP) in Appendix B of the Work Plan (Ash Creek, 2011). The Work Plan is provided as Appendix B of this report. As described in Section 1.2, field activities included well headspace monitoring and documentation of well conditions, measurement of depth to water from extraction and monitoring wells, and collection of groundwater samples from monitoring wells and one residential well. Table 1 lists the groundwater monitoring wells and residential wells that were gauged and sampled as part of the Site monitoring program. Any deviations from the Work Plan are discussed in Section 2.5 of this report. The location of the monitoring, extraction, and residential wells included in the monitoring program are shown on Figure 2.

2.1 Well Inspection and Headspace Screening

Prior to sampling, site conditions were recorded including temperature, precipitation, wind direction, and any other factors that could affect sample quality. The well monuments were inspected for signs of damage, and were noted accordingly in the field notes (Appendix A). In general the wells were in good condition, with the exception of missing bolts on some of the flush monument well covers (see notes in Appendix A). The well locks were replaced in each of the wells with well locks keyed to a common key. The well lids were opened and the headspace around each well was screened for organic vapors using a photoionization detector (PID). Headspace concentrations measurements were documented in the field notes provided in Appendix A. PID concentrations were consistently below 1 part per million (ppm; PID calibrated to 100 ppm isopropylbenzene) indicating that breathing space conditions were safe for the field representative.

2.2 Groundwater Elevation Measurements

On April 25, 2011 groundwater elevation measurements were collected from 21 wells in accordance with the Work Plan (Ash Creek, 2011). The well lids and caps were opened a minimum of 5 minutes prior to collecting measurements so that the air pressure in the well had time to equilibrate with the ambient air pressure. Depth to groundwater measurements were conducted with an electronic water level probe in accordance with the SAP (see Appendix B of Appendix B). Depth-to-water measurements and groundwater elevation data are provided in Table 2. A groundwater potentiometric map for the Site and vicinity is provided on Figure 3.

2.3 Groundwater Sampling

Groundwater samples from 19 wells were sampled for pentachlorophenol during the 2011 annual monitoring event. Groundwater was purged in each well before sampling using dedicated Teflon tubing and a peristaltic pump. Field parameters, including temperature, pH, dissolved oxygen, oxidation-reduction potential, specific conductivity, and turbidity were collected during the purging process using a flow-through cell. Detailed groundwater sampling procedures are described in the SAP (see Appendix B of Appendix B). Field parameter measurements are documented in the field notes in Appendix A. After purging, groundwater samples were collected in accordance with the Work Plan (Ash Creek, 2011).

2.4 Handling of Investigation-Derived Waste

Investigation-derived waste (IDW) consisted of purge water and decontamination water. IDW generated during the monitoring event was placed in covered buckets and was transported to and disposed of in the drain located to the north of the stormwater treatment system (Figure 2). Disposable items, such as gloves, paper towels, etc., were disposed of as municipal waste.

2.5 Deviations from Work Plan

- The owners of residential well RW-02 could not be contacted prior to the monitoring event. The field representative from Ash Creek met the property owner at the residence during the monitoring event and was notified that the pump for the residential well had not been operable for several years. According to the resident, the well water had historically been used for washing cars and had never been used for drinking water. The property owner stated that the residence used a municipal water supply for drinking water. Therefore, RW-02 was not sampled.
- Monitoring well MW-12S is constructed of 6-inch-diameter PVC casing. In order to purge a minimum of three well volumes using the maximum peristaltic pump flow rate, the field staff determined it would take approximately 4.5 hours to purge the well prior to sampling. In order to collect a groundwater sample representative of the aquifer in an efficient timeframe, field parameters were measured every 5 minutes while purging the well. Once pH and temperature

- conditions reached values similar to results for the other wells at the Site, and the other field parameters stabilized (dissolved oxygen, turbidity, etc.) the well was considered adequately purged and ready for sampling. The total purge volume for MW-12S was approximately 0.3 well volumes.
- Water levels could not be measured in extraction well PW-03 because the extraction pump rigid tubing was covering the portal for inserting the water level tape. The well cap and tubing configuration could not be safely moved without potentially damaging the extraction pump setup. The PWPO operations manager will be contacted prior to the 2012 monitoring event to see if the extraction pump configuration could be adjusted to allow water level tape access.

3.0 Monitoring Results

3.1 Groundwater Elevation Results

A groundwater elevation contour map is provided on Figure 3. Groundwater flow at the site is from the northwest to southeast towards the South Yamhill River and is consistent with historical documentation of groundwater flow direction (CMH2MHill, 2003). The groundwater contour map in Figure 3 depicts a depression in the groundwater flow path that coincides with the perimeter or the barrier wall. Within the barrier wall, groundwater elevations are between 5 to 10 feet lower than the surrounding area as groundwater is being actively extracted from within the barrier wall. Within the barrier wall, the groundwater flow direction is not consistent with regional flow, and suggests that groundwater extraction from within the barrier wall has successfully produced a localized inward gradient.

3.2 Groundwater Analytical Results

The groundwater samples were submitted to ESC Lab Sciences (ESC) in Mt. Juliet, Tennessee for laboratory analysis of PCP by EPA Method 8270 (PCP only). ESC is certified to analyze PCP in water samples in the state of Oregon. A copy of the Oregon laboratory certification and analytical reports are included in Appendix C, along with a quality assurance/quality control (QA/QC) review of the data. The results of the data quality review indicate that the data are of acceptable quality and are suitable for their intended purpose. The April 2011 groundwater analytical results as well as historical analytical results are presented in Table 3.

4.0 Data Evaluation and Conclusions

Concentration trends (from February 2002 through May 2011) for PCP in groundwater from wells MW-1S, MW-1S, MW-15S, MW-16S, PZ-105, and MW-103S are provided in Appendix D. These wells were selected to evaluate long-term concentration trends in Site perimeter and off-site wells and to confirm that PCP in groundwater has not migrated south to the South Yamhill River or to the east under Rock Creek

Road. The trend plots for wells MW-15S, MW-16, MW-103S, and PZ-105, all located to the south of the Site, were either stable or decreasing. PCP concentrations in groundwater in wells located to the south of Highway 18B (MW-20s, MW10S, MW-24S and MW-9S) were non-detect during the April 2011 monitoring event. The data confirm that migration to the south towards the South Yamhill River is not occurring.

Trend plots for wells MW-1S andMW-11S were used to confirm that PCP in groundwater was not migrating beyond the Site barrier wall and to the east under Rock Creek Road. Concentrations in MW-1S have decreased from 14 μ g/L to non-detect between November 2002 and April 2011. While concentrations of PCP in well MW-11s have been variable with concentrations slightly over reporting limits, there have been no significant increases in PCP concentrations in the well that would indicate that eastern migration is occurring.

Concentrations of PCP have been non-detect in water wells RW-01 and RW-02 since wells were initially sampled in 1999. As discussed in Section 2.5, according to the residential property owner, the well pump at RW-02 has been out of operation for several years. The residents indicated that the well had not been used for drinking water purposes, and only for occasional car washing. The residence is now connected to the municipal water supply. It is anticipated that the water well pump will not be repaired and that well RW-02 will remain out of operation. It is unlikely that the RW-02 well pump will be operable for sampling during the next annual monitoring event in April 2012.

5.0 References

- Ash Creek Associates, 2011. *Groundwater Monitoring Work Plan* Former Taylor Lumber Site, Sheridan, Oregon. April 22, 2011.
- CH2MHill, 2003. Remedial Investigation Report Taylor Lumber and Treating Superfund Site Sheridan, Oregon Volume I. October, 2003.
- U.S. Environmental Protection Agency (EPA), 2005. *Final Record of Decision Taylor Lumber and Treating Superfund Site, Sheridan, Oregon.* September 30, 2005.
- EPA, 2010. Long-term Groundwater Monitoring and Reporting Plan. Taylor Lumber and Treating Superfund Site. March, 2010.

Table 1
Groundwater Monitoring Program
Taylor Lumber and Treating

| Wells to be Sampled | Water Level Measurments* |
|------------------------|---------------------------------------|
| | |
| Χ | Х |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| | |
| Χ | Χ |
| Χ | Χ |
| Χ | Χ |
| | |
| Χ | Χ |
| | |
| Χ | |
| Χ | |
| rier Wall | |
| | Χ |
| | Χ |
| | Χ |
| | Χ |
| | X X X X X X X X X X X X X X X X X X X |

- 1. * = Indicates wells in which water level measurements will be collected.
- 2. ** = Residential addresses and contact information are as follows:

RW- 01:(

RW-02: (b) (6)

MW-9S: (b) (6)

MW-11S: Northwest Gazebo - George Gabriel owner - 503-843-0024

Notes: See footnotes in Tables 2 and 3 for any deviations from the monitoring plan.

The EPA Long Term Groundwater Monitoring and Reporting Plan (EPA, 2010) depicted Well MW-9S as both "Outside the Barrier Wall" and "South of Highway 18B". The tables in this report have been revised to denote well MW-9S as "South of Highway 18B" only.

Table 2 Groundwater Elevation Results Taylor Lumber and Treating

| | | | Groundwater |
|---------------------------------|------------------------|----------------------------|---------------------|
| Well Number/ (TOC Elevation) | Date of Measurement | Depth to Water (feet BTOC) | Elevation (feet) |
| Outside Barrier Wall | | <u> </u> | (|
| MW-1S (207.41) | 4/25/2011 | 3.11 | 204.3 |
| MW-6S (204.39) | 4/25/2011 | 2.72 | 201.67 |
| MW-6D (204.04) | 4/25/2011 | 2.35 | 201.69 |
| MW-12S (204.49) | 4/25/2011 | 2.80 | 201.69 |
| MW-13S (204.92) | 4/25/2011 | 3.15 | 201.77 |
| MW-15S (204.68) | 4/25/2011 | 2.92 | 201.76 |
| MW-16S (205.19) | 4/25/2011 | 2.95 | 202.24 |
| MW-19S (210.44) | 4/25/2011 | 4.71 | 205.73 |
| MW-20S (208.87) | 4/25/2011 | 5.51 | 203.36 |
| MW-25S (208.74) | 4/25/2011 | 5.87 | 202.87 |
| MW-103S (207.62) | 4/25/2011 | 3.68 | 203.94 |
| PZ-101 (208.48) | 4/25/2011 | 3.61 | 204.87 |
| PZ-102 (204.02) | 4/25/2011 | 3.54 | 200.48 |
| South of Highway 18B | • | | |
| PZ-105 (205.94) | 4/25/2011 | 3.45 | 202.49 |
| MW-9S (204.04) | 4/25/2011 | 6.72 | 197.32 |
| MW-10S (203.17) | 4/25/2011 | 9.55 | 193.62 |
| MW-24S (205.49) | 4/25/2011 | 13.59 | 191.9 |
| MW-11S (207.27) | 4/25/2011 | 2.59 | 204.68 |
| Extraction Wells Inside Ba | arrier Wall | | |
| PW-1 (203.93) | 4/25/2011 | 6.55 | 197.38 |
| PW-02 (204.96) | 4/25/2011 | 8.92 | 196.04 |
| PW-03 (206.3) | 4/25/2011 | Water Level Po | ort Obstructed * |
| PW-04 (206.98) | 4/25/2011 | 11.98 | 195.00 |

 $[\]mbox{\ensuremath{^{\star}}}\xspace$ = The water level tape portal was obstructed during the monitoring event.

Table 3 Groundwater Analytical Results Taylor Lumber and Treating

| | ı | I |
|-------------------|------------------------|-----------------------------|
| Well ID | Date of Measurement | Pentachlorophenol (µg/L) |
| Outside Barrier W | /all | |
| MW-1S | 5/1/1999* | |
| | Feb-02 | <25 |
| | May-02 | 6.9 |
| | Aug-02 | 14 |
| | Nov-02 | 14 |
| | Feb-03 | 6 J |
| | May-03 | 3.3 |
| | 4/25/2011 | < 0.33 |
| MW-6S | May-99 | <25 |
| | Feb-02 | 0.82 |
| | May-02 | 0.88 |
| | Aug-02 | 1 |
| | Nov-02 | 0.88 J |
| | Feb-03 | |
| | May-03 | |
| | 4/25/2011 | <0.33 |
| | 4/25/2011 DUP | <0.33 |
| MW-6D | 4/25/2011 | <0.33 |
| MW-12S | May-99 | |
| | Feb-02 | 0.32 |
| | May-02 | 0.3 |
| | Aug-02 | 0.45 |
| | Nov-02 | 0.22 J |
| | Feb-03 | |
| | May-03 | <0.33 |
| 1 MAY 400 | 4/25/2011 | |
| MW-13S | May-99 | |
| | Feb-02 | 0.25 |
| | May-02 | 0.25 2 |
| | Aug-02 Nov-02 | 2.6 J |
| | Feb-03 | <0.32 |
| | May-03 | < 0.56 |
| | 4/25/2011 | <0.33 |
| MW-15S | May-99 | |
| IVIVV-133 | Feb-02 | 220 |
| | May-02 | 220 |
| | Aug-02 | 250 |
| | Nov-02 | 210 |
| | Feb-03 | 130 |
| | May-03 | 190 |
| | 4/25/2011 | 12 |
| | | .= |

Please refer to notes at end of table.

Table 3 Groundwater Analytical Results Taylor Lumber and Treating

| Well ID | Date of Measurement | Pentachlorophenol (µg/L) |
|------------|------------------------------|-----------------------------|
| MW-16S | May-99 | |
| | Feb-02 | 10.0 |
| | May-02 | 15.0 |
| | Aug-02 | 28.0 |
| | Nov-02 | 21 J |
| | Feb-03 | 11.0 |
| | May-03 | 11.0 |
| | 4/25/2011 | 11.0 |
| | 4/25/2011 DUP | 11.0 |
| MW-19S | May-99 | |
| | Feb-02 | |
| | May-02 | |
| | Aug-02 | 0.067 |
| | Nov-02 | < 0.32 |
| | Feb-03 | <0.32 |
| | May-03 | 0.061 |
| | 4/25/2011 | <0.33 |
| MW-20S | May-99 | |
| | Feb-02 | |
| | May-02 | |
| | Aug-02 | 0.013 J |
| | Nov-02 | <0.32 |
| | Feb-03 | <0.32 |
| | May-03 4/25/2011 | 0.027 J <0.33 |
| MM/ OFC | | |
| MW-25S | 12/19/2005 12/19/2005 DUP | 424 396 |
| | 4/25/2011 | 230 |
| MW-103S | | 5.6 |
| IVIVV-1033 | May-99 Feb-02 | 6.4 |
| | May-02 | 7 |
| | Aug-02 | 12 |
| | Nov-02 | 4.7 J |
| | Feb-03 | 5 |
| | May-03 | 20 |
| | 4/25/2011 | 1.6 |
| PZ-101 | May-99 | <25 |
| | Feb-02 | 0.14 |
| | May-02 | 0.15 |
| | Aug-02 | 0.14 |
| | Nov-02 | 1.1 J |
| | Feb-03 | |
| | May-03 | 0.067 |
| | 4/25/2011 | <0.33 |
| PZ-102 | May-99 | <25 |
| | Feb-02 | 0.37 |
| | May-02 | 0.3 |
| | Aug-02 | 0.34 |
| | Nov-02 | 0.13 J |
| | Feb-03 | 0.23 J |
| ī | May-03 | < 0.32 |
| | 4/25/2011 | <0.33 |

Please refer to notes at end of table.

Table 3 Groundwater Analytical Results Taylor Lumber and Treating

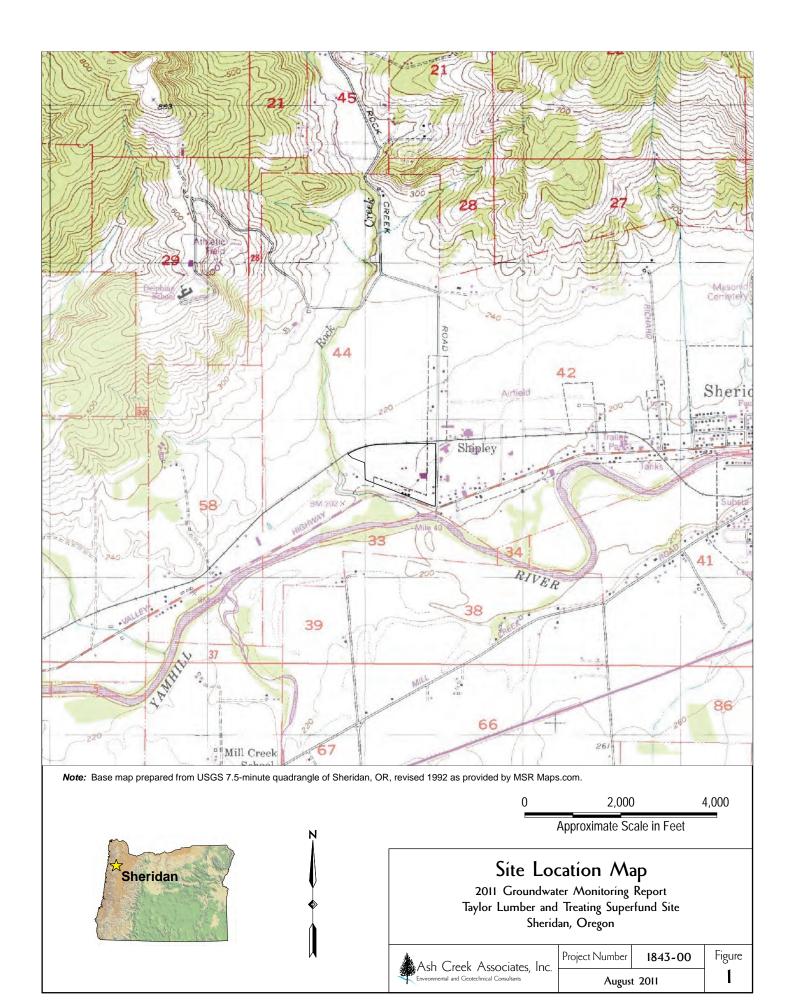
| Well ID | Date of Measurement | Pentachlorophenol (µg/L) | | | |
|-------------------|------------------------|-----------------------------|--|--|--|
| PZ-105 | May-99 | 82 J | | | |
| | Feb-02 | 3.5 | | | |
| | May-02 | 8.2 | | | |
| | Aug-02 | 17 | | | |
| | Nov-02 | 4.0 J | | | |
| | Feb-03 | 0.77 | | | |
| | May-03 | 2.6 | | | |
| | 4/25/2011 | < 0.33 | | | |
| South of Highway | 18B | | | | |
| MW-9S | May-99 | <24 | | | |
| | Feb-02 | < 0.047 | | | |
| | May-02 | <0.049 | | | |
| | Aug-02 | <0.023 | | | |
| | Nov-02 | <0.32 | | | |
| | Feb-03 | <0.32 | | | |
| | May-03 | <0.046 | | | |
| | 4/25/2011 | < 0.33 | | | |
| MW-10S | May-99 | <26 | | | |
| | Feb-02 | 0.099 | | | |
| | May-02 | 0.13 | | | |
| | Aug-02 | 0.38 | | | |
| | Nov-02 | 0.18 J | | | |
| | Feb-03 | <0.32 | | | |
| | May-03 | 0.13 | | | |
| | 4/25/2011 | <0.33 | | | |
| MW-24S | 4/25/2011 | <0.33 | | | |
| East of Rock Cree | | | | | |
| MW-11S | May-99 | <25 | | | |
| | Feb-02 | 0.18 | | | |
| | May-02 | 0.18 | | | |
| | Aug-02 | 0.36 | | | |
| | Nov-02 | <0.32 | | | |
| | Feb-03 | <0.32 | | | |
| | May-03 | 0.18 | | | |
| | 4/25/2011 | 0.87 J | | | |
| Residences | 14 00 | T or | | | |
| RW-01 | May-99 | <25 | | | |
| | Feb-02 | <0.045 | | | |
| | May-02 | <0.049 | | | |
| | Aug-02 | <0.046 | | | |
| | Nov-02 | <0.32 | | | |
| | Feb-03 | <0.045 | | | |
| | May-03 | <0.046 | | | |
| | 4/25/2011 | <0.33 | | | |

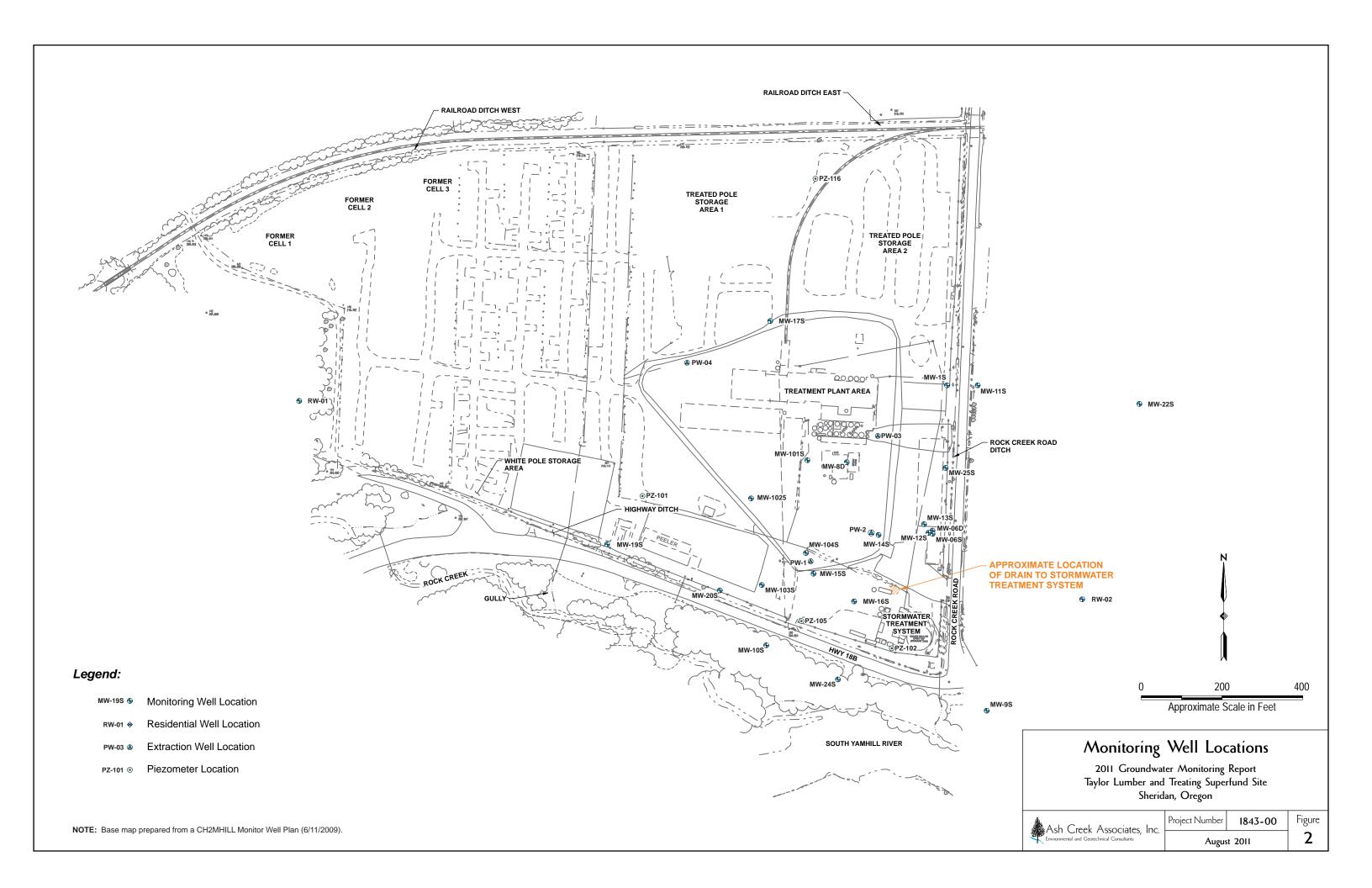
Please refer to notes at end of table.

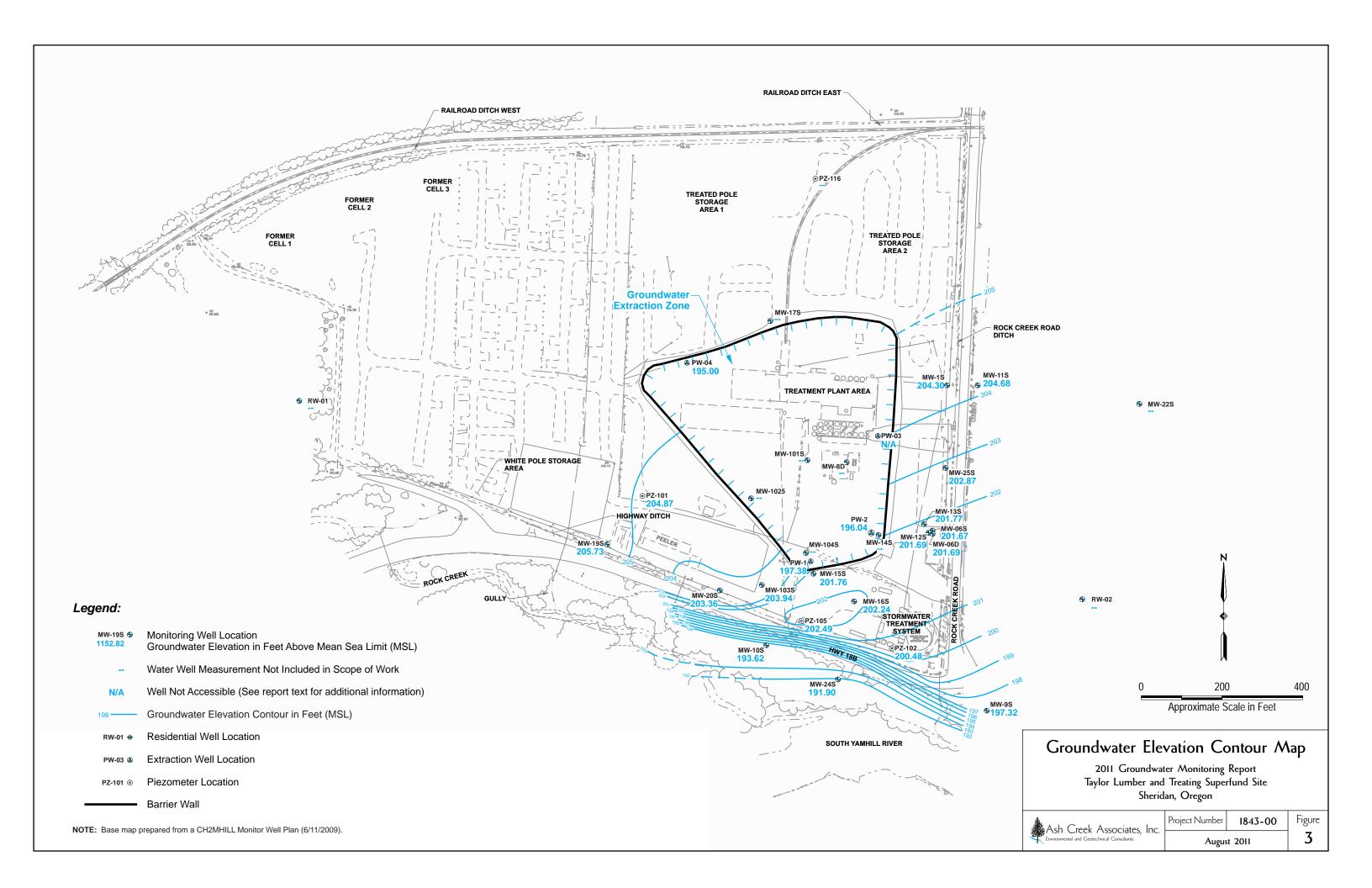
Table 3 Groundwater Analytical Results Taylor Lumber and Treating

| Well ID | Date of Measurement | Pentachlorophenol (µg/L) |
|---------|------------------------|-----------------------------|
| RW-02 | May-99 | |
| | Feb-02 | < 0.045 |
| | May-02 | 0.026 J |
| | Aug-02 | 0.046 J |
| | Nov-02 | < 0.32 |
| | Feb-03 | |
| | May-03 | 0.026 J |
| | 4/25/2011 | |

- 1. Sample dates for historical (pre-2005) data are not available; results available in month/year format only.
- 2. J = Detected value was below the lowest calibration point for the analysis; therefore, results are estimated.
- 3. -- = Not Sampled
- 4. BOLD indicates analyte detected above method reporting limit.
- 5. DUP = Duplicate sample.
- 6. * = RW-02 not sampled during April 2011 monitoring event. During the monitoring event the residential property owner indicated that the water well pump was no longer operable.











| PROJEC [*] | T NUMBER 18 | 143-00/TZ | |
|---------------------|---------------|--------------|---|
| FIELD F | REPORT NUMBER | | - |
| PAGE | | OF | |
| DATE | D4 | /25/11 MONDA | Y |

| www.ashcreel | kassociates.com | | | | |
|--------------|-------------------------------|-----------------|---------------|------------------|----|
| PROJECT | DEQ TAYLOR WMBER | ARRIVAL TIME | 1115 | | |
| LOCATION | SHERIDAN, DREGON | DEPARTURE TIME | 1700 | | |
| CLIENT | PEQ/EPA | WEATHER CLOUDY | OVERCAST I | (51°) WIND SW 18 | 31 |
| PURPOSE C | OF OBSÉRVATIONS ANNUAL GROUND | WATER MONITOR | LING ACTIVI | nes | |
| ASH CREEK | REPRESENTATIVE M, WHITSON | ASH CREEK PROJE | CT MANAGER | 5. BUSZE | |
| CONTRACTO | OR | PERMIT NO. | MODE ANALYSIS | | |
| CONTRACTO | OR REP. | H&S REVIEW | 1 | | |
| | | ****** | | | |

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, send sequence of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those included in a preliminary report.

| 2900 | PACK UP EQUIPMENT AND FIELD SUPPLIES, CALIBRATE PID | |
|----------------------------------------|--------------------------------------------------------------------------|--------|
| | DEPART FOR SITE | |
| 1115 | ARRIVE ONSITE CHECK IN AT OFFICE, TOM BAFER NOT ONSITE, FIND WELLS | |
| | START OPENING WELLS, MOINITORING HEADSPACE WITH PIP | |
| | STARTS PAINING MODERATELY | |
| 1300 | STOPS PAINING | |
| 1305 | NORM READ (DER) APRIVES ONBITE WALK SITE, OPEN UP WELLS MW-105, MW-245 | |
| | MW-115, DANNOT FIND MW-95 ACCROSS HWY 18, WALK OVER TO HOUSE AT | |
| | THAT LOCATION, OWNER POINTS OUT WELL | |
| | MOB BACK TO VAN | |
| 1400 | NORM READ DEPARTS | |
| 1405 | FINISH OPENING WELLS | |
| | OPEN PW WELL VAULTS | |
| | START GAVGING WELLS | |
| 1600 | FINISH GAVGING WELLS PW-03 UNABLE TO BE GAVGED, WILL RETURN LATER | |
| | CLEAN UP, CALIBRATE EQUIPMENT (YSI) | |
| ······································ | OFGANIZE GUPPINES FOR SAMPLING | |
| | SETUP SAMPLE BOTTLES, PUMP, POWER SUPPLY ETC. | |
| | ASK HOW LATE GATE TO SITE WILL PEMAIN UNLOCKED AT MAIN OFFICE, RECEPTION | ****** |
| CONTRACTOR SECTION | SAYS 1700 GATES WILL BE CLOSED AND LOCKED. | |
| | WRAP THINGS UP FOR DAY | |
| | PACK UP VEHICLE, CAU S. BOSZE TO VEDATE | |
| 1700 | DEPART SITE FOR HOTEL IN PALLAS, OR | |
| | | ý |

BY

REVIEWED BY

ASH CREEK ASSOCIATES REPRESENTATIVE



| PROJECT | NUMBER | 1843.0 | 0/12 | | |
|---------|-----------|----------|------|-----|--|
| FIELD R | EPORT NUM | BER | | | |
| PAGE | Medical | | OF | 2_ | |
| DATE | | 04/26/11 | TVES | 7AY | |

| www.asncreekassociates.com | | | | |
|----------------------------|------------------|-----------------|-------------|------------------|
| PROJECT TAYLOR | UMBER ANNVAL C | ARRIVAL TIME | 0835 | |
| LOCATION SHERIDA | N, OPEGON. | DEPARTURE TIME | 1800 | |
| CLIENT PEQ | | WEATHER CLOUD | Y L. RAIN/ | 50'S) L. WINDS S |
| PURPOSE OF OBSERVAT | TONS ANNUAL GI | COUNDWATER MOM | TOPING AC | TIVITIES |
| ASH CREEK REPRESENT | ATIVE M. WHITSON | ASH CREEK PROJE | CT MANAGER | 5, BOSZE |
| CONTRACTOR | para para | PERMIT NO. | gara. 1980. | |
| CONTRACTOR REP. | سكان موان | H&S REVIEW | | |
| | | | | |

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, send sequence of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those included in a preliminary report.

| 0835 | APRIVE ONSITE, HASP REVIEW, MOB TO PZ-105, SETUP ON WELL WITH EQUIP. |
|------|----------------------------------------------------------------------|
| | START PURGING PZ-105 |
| 1015 | PZ-105 SAMPLE TAKEN |
| | MOB 70 MW-155 |
| | PURGE MW-155 |
| 1145 | SAMPLE MW-155 TAKEN |
| | MOB TO MW-135 |
| | PURGE MW-135 |
| 1200 | |
| | MOB TO MW-125 |
| | SETUP ON MW-125, 6-INCH PUC CASING WITH 9-FOOT WATER COLUMN |
| | WILL REQUIRE 13,3 GALLONS PER CASING VOLLME AT HIGHEST PUMPING |
| | PATE WITH PERISTALTIC PUMP WILL TAKE APPROXIMATELY 4.5 HOURS |
| | FOR 3 CASING VOLUMES, START PURGING WELL, CALL S, BOSZE ABOUT |
| | TIME IT WILL TAKE TO PURGE ALLOPPING TO PLAN, S. BOSZE EXPLAINS |
| | TO PURGE WELL, AND START COLLECTING PARAMETERS ON 5 MINUTE |
| | INTERVALS TO SEE IF VANUES EQUILIBRATE, S. BOSZE WILL CALL NORM |
| | READ TO DISCUSS CHANGE TO SAMPLING PLAN. |
| | WELL EQUILIBRATES, S. BOSZE CAUS, OFAY TO SAMPLE WELL AFTER |
| | STABILIZES, |
| 1410 | SAMPLE MW-12S TAKEN |
| | MOB TO MW-06D |
| | START PURGING MW-060, WELL IS ALMOST 30' TOTAL DEPTH, WILL ALSO |
| | REQUIRE 1.5 HOURS TO PURGE 3 CASING VOLUMES, CALL S. BOSZE TO ASK |
| BY | 1 c n l a REVIEWED BY |

REVIEWED BY



| PROJECT | NUMBER 15 | 543-00/TZ | No. | |
|----------|-------------|-----------|------------|--|
| FIELD RE | PORT NUMBER | | | |
| PAGE | 2 | OF | 2 | |
| DAŢE | 04 | 126/11 | | |

| W W M.GSICICCAGSSOCIAICS.COTT |
|---------------------------------------------------------------------------------------------------|
| IF 5 MINUTE INTERVALS WILL BE ACCEPTABLE ON THIS WELL, OKAY |
| TO USE 5 MINUTE STABILIZATION METHOD ON MW-06D ONLY, |
| 1510 SAMPLE MW-06D TAFEN SETUP ON MW-06S |
| PURGE MW-065 |
| 1620 SAMPLE MW-065 TAKEN, DUPLICATE, MATRIX SPIKE, AND MATRIX SPIKE DUPLICATE TAKEN, MOB TO MW-95 |
| SETUP ON WELL, START PURGING |
| 1750 SAMPLE MW-95 TAKEN 1800 CHEAN UP AND DEPART SITE |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| , |

BY

REVIEWED BY

ASH CREEK ASSOCIATES REPRESENTATIVE



3015 SW First Avenue Portland, Oregon 97201-4707 (503) 924-4704 Portland (360) 567-3977 Vancouver (503) 943-6357 Fax www.ashcreekassociates.com

| PROJEC [*] | T NUMBER | 1843-00/1 | 2 |
|---------------------|-------------|-----------|----|
| FIELD F | REPORT NUME | BER _ | |
| PAGE | | OF | 2, |
| DATE | | 04/27/11 | |

| PROJECT | TAYLOR LUMBE | R ANNVAL | GWM A | ARRIVAL TIME | 0700 | |
|-----------|----------------|------------|----------|-----------------|---------------|--------------|
| _ | SHERIDAN, OR | | | DEPARTURE TIME | 1845 | |
| CLIENT | PEQ | | \ | NEATHER M.CL | EAR (505/ | WS L. WIND S |
| PURPOSE C | F OBSERVATIONS | ANNVAL | GROUNDWI | ATER MONIT | opina Aca | IVITIES |
| ASH CREEK | REPRESENTATIVE | M. WHITSON | <i>F</i> | ASH CREEK PROJE | CT MANAGER | 5, BOSZE |
| CONTRACTO | OR | | F | PERMIT NO. | متدويم سمتندم | |
| CONTRACTO | OR REP. | - Par | <u> </u> | H&S REVIEW | | |

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, send sequence of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those included in a preliminary report.

| 0700 | APRIVE ONSITE HASP REVIEW | CHECK IN | AT OFFICE, MOR TO MW-165 |
|---------------------------------------|---------------------------|-----------|---------------------------------------|
| | SETUP ON MW-165 | | |
| | PURGE MURICIS | | |
| 0800 | SAMPLE MW-165 TAKEN (MV | v-ibs due |) |
| | MOB to PZ-102 | | |
| | SETUP ON PZ-102 | | |
| 0850 | SAMPLE PZ-102 THEEN | | |
| | MOB TO MW-1035 | 1505 | SAMPLE MW-11S TAKEN |
| | SETUP ON MW-1035 | | MOB TO MW-255 |
| 0950 | SAMPLE MW-1035 TAKEN | | SETUP ON MW-255 |
| | MOB TO MW-205 | 1610 | SAMPLE MW-255 TAKEN |
| | SETUP ON MW-205 | | CLEAN UP, MOB OFFSITE TO RW-02 |
| 1045 | SAMPLE MW-20S | | LOCATION AT 1523 W. MAIN ST. |
| | MOB TO MW-195 | | KNOCK AT FRONT DOOR, NO ANSWER |
| | SETUP ON MW-195 | | WALK AROUND PROPERTY LOOKING |
| 1150 | SAMPLE MW-195 TAKEN | 1 | FOR OWNER OR TENAMT. NO ONE |
| · · · · · · · · · · · · · · · · · · · | MOB TO PZ-101 | | FOUND, FIND WELL HOUSE, PUMP LOC- |
| | SETUP ON \$2-101 | | ATTON, PUMP NOT RUNNING, CALL S. BOSZ |
| 1300 | SAMPLE PZ-101 TAKEN | | HOMEOWNER (STEVEN BURF) APRIVE |
| | MOB TO MW-IS | | EXPLAIN PRESENCE AND REASON FOR |
| • | SETUP ON MW-15 | | VISIT, HOMEDWINER DOES NOT SEEM |
| 1400 | SAMPLE MW-IS TAKEN | | HAPPY. |
| | MOB TO MW-115 | | CAH S, BOSZE, NEVER HAD ACCESS |
| | SETUP ON MW-115 | <u> </u> | AGREEMENT NO SAMPLE COLLECTED |

ΒY

REVIEWED BY

ASH CREEK ASSOCIATES REPRESENTATIVE



www.ashcreekassociates.com

| PROJECT | NUMBER / | 893-06/T | 2 | |
|----------|--------------|----------|---|--|
| FIELD RI | EPORT NUMBER | e e | | |
| PAGE | | OF | Z | |
| DATE | 04/- | 27/11 | | |

| MOB TO RW-OI AT BOWMAN RESIDENCE, SPEAK WITH ROBERT BOWMAN GRANTS ACCESS TO TAP AT PUMPHOUSE, PURGE FOR 10 MINUTES |
|--------------------------------------------------------------------------------------------------------------------|
| AND START COLLECTING PARAMETERS. 1715 SAMPLE RW-01 TAKEN MOB TO MW-10S SETUP ON MW-10S |
| 1745 SAMPLE MW-105 TAKEN MOB TO MW-245 SETUP ON MW-245 |
| 1835 SAMPLE MW-245 TAKEN 1845 CLEAN UP/DEPART SITE FOR PORTLAND. |
| |
| |
| |
| |
| |
| |
| |
| |

ВҮ

ASH CREEK ASSOCIATES REPRESENTATIVE

REVIEWED BY

WELL GAGING DATA SHEET

| | | • | | Weather: | OVERLEAGE | r (50's) | Time In/Out: |
|-----------|---------|------------------------------------|-----------------------------|-----------------------------------|--------------------------------|-------------------------------------|------------------------------------|
| | | | | WATER LI | EVEL DATA | * | |
| Well I.D. | Time | Depth to Free Product (feet) | Depth to Water (feet) | Depth to Well Bottom (feet) | Product Thickness (feet) | Water Column Height (feet) | Notes/Other Remarks CONDITION (PID |
| PZ-105 | 1432 | genera golin. | 3.45 | | secolo adoque | | STICKUP; REPLACE LOCK (0.0) |
| MW-205 | 1435 | Military (1964) | 5,5 | | Menoy delates | | " (0,0 |
| MW-195 | 1440 | | 4,71 | | سننوي سجائنو | | 1) (0.0 |
| PZ-101 | 1443 | 400 Mar | 3.61 | | Meller - Andriane | | 11 (0,0 |
| MW-1035 | 1450 | _~ | 3.68 | | Table Shirt | | FLUGH, 1-BOLT, HOD. (00) |
| MW-155 | 1453 | nga siyaa | 2,92' | | enintra apara | | FLUSH, H20 (0.0) |
| MW-166 | 1456 | 66 W | 2.95 | | , 2000° | | FW5H (0.0) |
| PZ-102_ | 1459 | , | 3.54 | | gare street | | STICKUP, PEPLACE LOCK (0.0) |
| MW-135 | 1502 | galiti agoo- | 3.15 | | and thee. | | FLUGH NO BOLTS (0.1) |
| MW-125 | 1504 | 900 tor | 2,80' | (-a) | nga N P | | 6" FWSH, HZO (0,0) |
| MW-06D | 1506 | Jan. Alter | 2,35 | , por | d ear eas | | FWSH, H20, 2-BOLTS (0.0) |
| VW-065 | 1508 | gelien sooniege. | 2.72' | , | super plays. | | FLUSH H20, 2-BOLTS (0.0) |
| MW-255 | 1511 | 1994 (MINE) | 5.87 | | water made | | STUKUP, REPLACE LOCK (0.7) |
| MW-15 | 1514 | | 3.11 | | gype 448664 | | STICKUP, REPLACE LOCK (0,5 |
| MW-113 | 1517 | · guinne differen | 2.59 | | | Ý | 11 (0,0) |
| MW-95 | 523 | Notice Name | 6.72' | | Market April 19 | | FWSH, NO LOCK, H20 (0.0) |
| MW-245 | 1528 | 1. 26. | 13,59' | | ~ ~ | | STICKUP, REPLACE LOCK (0.0) |
| MW-105 | 1532 | grave general | 9,55 | | trades, systems | , | (0.0) |
| PW-1 | 1535 | | 6,55 | · | gree dame. | | TOP OF PLASTIC COVER |
| PW-02 | 1545 | and the second second | 8,92' | | ganin girin | | · h |
| PW-03 | 1548 | Main editable | - | v. | THE THE | | WATERLEVEL PORT OBSTRUCT |
| PW-04 | 1555 | est aper | 11,98 | 2: | grav Clistic | <u>.</u> | TOP OF PLASTIC COVER |
| * NOTE | " Retla | est be | CKS 0 | V Au | MEUS | | |
| | | | | | | | |
| | | | | | | r | |
| <u> V</u> | | | | | | | 2 |
| N. | | | | | | • | |
| | | | | , | | | |
| | | · | | | | | |
| | | | | | | | |
| | | | _ | | | 1 | * ** |

Ó

| W . | | | | | | and a second | - | | ł | 1 | - / | |
|---------------------|------------------------------|--------------------------------------------|--------------|---------------------------------------|---------------|---------------|-----------------|---------------|---------------------------------------|---------------------|--------------------------------|--|
| * | | | | | Well I.D. | | | | Job Number | 1 | 17 | |
| A 🌉 | sh Cree | ek Associ Geotechnical Consult | iates, Inc | | Client: | DEQ | | | Date: | 04/26 | 5/ !! | |
| Em Em | vironmental and (| Geotechnical Consult | ants | | Project: | TAYLOR LUMBER | | | Sampler: | MW | | |
| | | | | | Weather: | M. CLOUE | <u> 27(505</u> | 15W 15M | Time In/Out: | | | |
| | | <u> </u> | | | W | VELL DATA | <u> </u> | | 1 | | | |
| Well Depth: | _ | 12.0' | 8 | | Well Diamet | er: | 2' | | Water Heigl | ht | 11,60' | |
| Depth to Wa | ter: | 3,40'- | -3,0' = | 0,40' | Screened Int | terval: | 7.7'- | 11.7 | x Multiplier | | 0,162 | |
| Water Colum | nn Length: | 11.60 | | | Depth to Fre | e Product: | | | x Casing Vo | lumes | 3 | |
| Purge Volum | ne: | 8 G | AL | 4 | Free Produc | t Thickness: | | | = Purge Vol | ume | 1.87 | |
| Water He | eight Multip | oliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | 3.785 liters | 5.61 | |
| | | _ | | | PUI | RGING DATA | Y | | | | | |
| Purge Metho | od: | PERISTA | LTIC_ | | Pump Intake | Depth: | 2'BE | LOW NATE | R-SULF. | | Comments | |
| Sampling Me | ethod: | LOW-FLE | W EPA | | Tubing Type | : | PEDICA | ned ter | LON | | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pН | Temp (°C) | Cond (µS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks | |
| | | | | GPM | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria | |
| 0908 | 1.67 | 1.87 | 5,58 | 0,15 | 6.85 | 10,55 | 87 | 3,63 | 148.7 | 22,8 | CLEAR | |
| 0923 | 1.87 | 3.7H | 7.3 | Ìï | 6.35 | 10.92 | 86 | 1,21 | 76.1 | 22.8 | u | |
| 0932 | 1.87 | 5.61 | 7,52 | 11 | 6.29 | 11.02 | 86 | 1.21 | 98.1 | 25,8 | 4 | |
| 0947 | 1.87 | | 7.52 | 1. | 6.28 | 11,20 | 88 | 0,35 | 117.9 | 19,5 | 11 | |
| 1000 | 1,87 | 7.48 | 7,52 | 11 | 6.27 | 11,10 | 89 | 0.33 | 119,7 | 20,3 | // | |
| | | | - | | | | | | | | | |
| | | _ | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | : | | , | | | | | | |
| | | Clar | tv: VC = v | erv cloudv. | CI = Cloudy, | SC = slightly | cloudv. AC | = almost clea | r. C = clear | | · | |
| | | | | | | PLING DATA | | | | | | |
| Sample | ∍ ID: | PZ-105 | | Sampling | Flow Rate | 0,15 | | Analytical La | boratory: | EGC | | |
| Sample ⁻ | Time: | 1015 | | Final Dep | oth to Water: | 1, _, 1 | | Did Well De | | YE | 5 | |
| # Containe | rs/Type | Preser | vative | Analys | is/Method | Field Fi | ltered | Filter Size | | MS/MSD | Duplicate ID | |
| 2×111 | AG | Non | 栏 | PCP | | yes | no | magnet 40 | | | Steer Appear | |
| | | | | | | yes | no | | | | | |
| | | *** | | | | yes | no | | | | | |
| | | *************************************** | | | _ | yes | no | | | | | |
| <u></u> | | · | | | | yes | no | | | | | |
| | | | | | | yes | no | | | | | |
| <u> </u> | | ···· | | | С | OMMENTS | | | | I | | |
| | | | | | | | | | 1 | | | |
| | | | | | | | | | · · · · · · · · · · · · · · · · · · · | | | |

| ى | | | | | Well I.D. | MW-15S | | | Job Number: 1843-00/12 | | | |
|----------------------------|------------------------------|--------------------------------------------|--------------|--------------------------|---------------|------------------------------|-----------------|---------------|---------------------------------------|---------------------|--------------------------------|--|
| Ash Creek Associates, Inc. | | | | Client: | PEQ | | | Date: | 04/26/11 | | | |
| 7 | Environmental and (| Geotechnical Consult | ants | • | Project: | TAYLOR LUMBER | | | Sampler: | Sampler: MW | | |
| | | | | | Weather: | CLOUDY/RAIN (40'S) | | | Time In/Out: | | | |
| | | | | | W | /ELL DATA | | | | | | |
| Well Depth | : | 12.5 |)) | | Well Diamete | er: | 2" | | Water Heigh | nt | 9.64 | |
| Depth to W | ater: | 2,80 | 0 | | Screened Int | terval: | 7.5- | 12,5 | x Multiplier | | 0,162 | |
| Water Colu | ımn Length: | 9.6 | 4 | | Depth to Fre | e Product: | - | , gas. | x Casing Vo | lumes | 3 | |
| Purge Volu | me: | 6,50 | AL- | | Free Produc | t Thickness: | 900 | -0003- | = Purge Vol | ume | 1.56 | |
| Water I | leight Multi | pliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | .785 liters | | |
| , | | | | | PUF | RGING DATA | \ | | | | | |
| Purge Meth | nod: | PERLIST | AVTIC | | Pump Intake | Depth: | 2'BE | LOW WATE | i i i i i i i i i i i i i i i i i i i | С | omments | |
| Sampling M | fethod: | LOW-FI | -0W | | Tubing Type | : | TEFLO | N PEDICA | NED | | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pH | Temp (°C) | Cond (μS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks | |
| | | | | GPM | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria | |
| 1/02 | 1.56 | 1,56 | 3,12 | 0,14 | 6.10 | 11,47 | 441_ | 1,02 | 123,9 | 45,2 | CLEAR | |
| 1113 | 1.56 | 3.12 | 3.15 | 11 | 6.19 | 11.51 | 477 | 0.5% | 109.4 | 43,3 | 1) | |
| NZH | 1,56 | 4,66 | 3.16 | 11 | 6,21 | 11,44 | 480 | 0,37 | 107.2 | 41.5 | " | |
| 1135 | 1,56 | 6,24 | 3.16 | /1 | 6.21 | 11.45 | 480 | 0,35 | 108,7 | 40.8 | Ú) | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | Clar | ity: VC = v | ery cloudy, | | SC = slightly IPLING DATA | | = almost clea | r, C = clear | | | |
| Samp | ole ID: | MW-I | 55 | Sampling | - | 0.14 | <u> </u> | Analytical La | horatory: | ESC | | |
| Sample | | 1145 | | | oth to Water: | 3.13 | | | | No | | |
| # Contain | | Preserv | | | is/Method | Field Fi | Itered | | Size | MS/MSD | Duplicate ID | |
| 2x1L | AG | | | PCP | | yes | (no) | A second | · Name | | NO | |
| | | | | yes | no | | ··· | | | | | |
| | | | | yes | no | | | | *** | | | |
| | | | | | | yes | no | | | | | |
| | | | | | | yes | no | | | | | |
| | | | | | | yes | no | | | | | |
| | | | | | C | OMMENTS | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| | | | | | Well I.D. | MW-10 | <u> </u> | | Job Number: | 1843-6 | 10/T2 |
|-------------|------------------------------|--------------------------------------------|---------------|--------------------------|---------------|------------------------------|-----------------|---------------|--------------|---------------------|----------------------------------------|
| | Ash Cree | ek Associ | iates Inc | | Client: | DEQ | | | Date: | 04/26 | líi |
| | invironmental and (| ek Associ Geotechnical Consult | ants | • | Project: | TAYLOR | WMBE | Que. | Sampler: | MW | |
| | | | | | Weather: | CLOUDY | | | Time In/Out: | | |
| | | | | | M | VELL DATÁ | | | | | |
| Well Depth: | | 1 | 4' | | Well Diamet | er: | 2 | | Water Heigh | nt | 10.89' |
| Depth to W | ater: | 3,1 | | | Screened In | terval: | 9-14. | 1 | x Multiplier | | 0.162 |
| Water Colu | mn Length: | 10. | 89' | | Depth to Fre | e Product: | lance | #or | x Casing Vo | lumes | Ž |
| Purge Volu | me: | | | | Free Produc | t Thickness: | | No. | = Purge Vol | ume | 1.76 |
| Water H | leight Multip | oliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | า = 0.653 | 1 gallon = 3 | .785 liters | |
| | | | | | PUI | RGING DATA | <u> </u> | | | | |
| Purge Meth | od: | PERIST | AUTIC | | Pump Intake | Depth: | ~2'E | ELOW WA | TEE | c | omments |
| Sampling M | lethod: | LOW-F | FLOW | | Tubing Type | : | TE | LON DED | CATED | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | рН | Temp (°C) | Cond (μS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1223 | 1,76 | 1,76 | 387 | 0,15 | 6.11 | 10.73 | 946 | 0.74 | 106. | 25.5 | <u>C</u> |
| 1236 | 1.76 | 3,52 | 3.87 | 11 | 6.15 | 10.76 | 945 | 0.39 | 91.6 | 24,6 | <u>C</u> |
| 1245 | 1.76 | 5,28 | 3.88 | Ø3 | 6.17 | 10.76 | 964 | 0.30 | 89,5 | 23,8 | <u> </u> |
| 258 | 1,76 | 7.04 | 3,89 | \$ g | 6.19 | 10.77 | 965 | 0,29 | 88.8 | 24,5 | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| <u> </u> | | | | | | | | | | | |
| | | | | | | | | | | | ······································ |
| | | | | | | | | 1 | | | |
| | | | | | | ١. | | | | | |
| | | Clar | ity: $VC = v$ | ery cloudy, | | SC = slightly IPLING DATA | | = almost clea | r, C = clear | | |
| Samp | le ID: | MW-15 | 35 | Sampling | | 0.15 | | Analytical La | horatory: | おこ | |
| Sample | | 1300 | | | oth to Water: | 3.59 | | Did Well Dev | | | 40 |
| # Contain | | Presen | | | is/Method | Field Fi | | Filter | | MS/MSD | Duplicate ID |
| 2×16 | | | | . Pc | P | yes | 60) | | per- | ş | ACCOUNT ACCOUNTS |
| | j. | | | | | yes | no | | | | |
| ******* | | **** | | *********** | | yes | no | | Maria V | | |
| | | *************************************** | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | C | OMMENTS | | | | | |
| | | | | | | - | | | | | |
| | | | | | | | | | * | | |

| | | | | VV | ELL MONIT | 1 | | | 1 | | 7 |
|-------------|------------------------------|--------------------------------------------|--------------|--------------------------|---------------------|------------------------------|-----------------|-----------------------------------------------|---------------|---------------------|--------------------------------|
| | | | | | Well I.D. | MW-17 | <u> </u> | | Job Number: | 1 | · 00/TZ |
| | Ash Cre | ek Associ | iates, Inc | | Client: | PEQ | | | Date: | 04/7 | 16/11 |
| ₹ E | nvironmental and (| Geotechnical Consult | tants | | Project: | TAYLOR | | <i>M</i> | Sampler: | MW | |
| | | _ | | | Weather: | | 405-50 | <u>)5) </u> | Time In/Out: | | |
| | | | | | N N | ELL DATA | 1 | | | | T |
| Well Depth: | | | <u> </u> | | Well Diamet | er: | | <u>, </u> | Water Heigh | nt | 9,13' |
| Depth to W | ater: | 2,8 | | ····· | Screened Int | terval: | 7-1 | 2' | x Multiplier | | 4,46 |
| Water Colu | mn Length: | 9, | 13' | | Depth to Fre | e Product: | | مندر حديد | x Casing Vo | lumes | 3 |
| Purge Volur | ne: | 10 | GAL | | Free Produc | t Thickness: | - | MA AMERICAN | = Purge Vol | ume | 13,32 |
| Water H | leight Multi | oliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | h = 0.653 | 1 gallon = 3 | .785 liters | 39.96 |
| | | | | | PUI | RGING DATA | | | | | |
| Purge Meth | od: | PENSO | AUTIC_ | | Pump Intake | Depth: | ~21 | SELOW V | VATER | c | Comments |
| Sampling M | ethod: | | -Frow | | Tubing Type | : | DEDI | CATED T | EFLON | | *: |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | рН | Temp (°C) | Cond (μS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1347 | 8,0 | 8,0 | 3,98 | 0.14 | 6,80 | 10,04 | 1,176 | 6,10 | 69.1 | 2.84 | C |
| 1352 | 0-7 | 8.7 | 4,02 | ł i | 6,78 | 10.06 | 1,176 | 0.38 | 61.9 | 2,78 | ٥ |
| 1357 | 0.7 | 9.4 | 4,03 | 0 ₂ | 6,78 | 10,09 | 1,174 | 0.30 | 60,0 | 2.70 | <u>C</u> |
| 1408 | 0.7 | 0. | 4,03 | Ry | 6,78 | 10,12 | 1,173 | 0,27 | 58,5 | 2.69 | C |
| | | | 44.44.4 | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | · | | | , | | , | |
| | | | | | | | | | | | |
| | | Clar | ity: VC = v | ery cloudy, | Cl = Cloudy, SAM | SC = slightly IPLING DATA | | = almost clea | ar, C = clear | | |
| Samp | e ID: | MW-12 | S | Sampling l | Flow Rate | 0,14 | · | Analytical La | boratory: | E | × |
| Sample | Time: | 1410 |) | Final Dep | oth to Water: | 4,0 | 2 | Did Well Dev | vater? | ~ | 10 |
| # Contain | ers/Type | Preserv | vative | Analys | is/Method | Field Fi | Itered | Filter | r Size | MS/MSD | Duplicate ID |
| 2X1 L1 | 14 | NON | E | PC | P | yes | <u>(no)</u> | - | anth anterna | Marine Assess | • |
| | | | | | | yes | no | | | | |
| | | | ~ | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | C | OMMENTS | | | | | |
| CALLS | BOSTE | W/6" | CASIN | A. AND | 40 GA | HONS T | D PURO | 世 多 0 | ASING V | OLUME | 5, USING |
| PEPI | ovmo v | VOULD - | TAKE | 4,5 HO | URS, PUL | UE SOM | E VOL | UME A | NP COU | ECT (| PAPAM, |
| | | | | | STABIL | | | | | <u> </u> | |

EVERY 5 MINS, WHEN VALUES STABILIZE SAMPLE WELL.

| | | *************************************** | | | T | T | | | | 1 | 1 |
|-------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------|---------------------|-----------------------------------------|--------|---------------------------------------|-------------------|---------------------|--------------------------------|
| _ | | | | • | Well I.D. | | | | Job Number | 1843 | -00/TZ |
| | Ash Cre | ek Associ | iates Inc | | Client: | PER | | | Date: | 04/ | 26/1) |
| ₹ E | nvironmental and (| Geotechnical Consul | tants | • | Project: | TAYLOR | 2 LUN | HER_ | Sampler: | MW | |
| | , | | | | Weather: | RAIN (| 405.50 | i 5) | Time In/Out: | | |
| | | | | | V | VELL DATA | | , , , , , , , , , , , , , , , , , , , | | | |
| Well Depth: | | 29,2 | | | Well Diamet | er: | 2 | 1/ | Water Heigl | nt_ | 26:72 |
| Depth to Wa | ater: | 2,48 | † | | Screened In | terval: | 19.9. | -29.2' | x Multiplier | | 0,162 |
| Water Colui | mn Length: | <i></i> | | | Depth to Fre | e Product: | 200 | gs. West- | x Casing Vo | lumes | 3 |
| Purge Volur | ne: | 5,5 | GAL | | Free Produc | t Thickness: | | ⁶⁹⁷ Keez | = Purge Vol | ume | 4.32 |
| Water H | leight Multip | oliers (gal) | 1-inch | = 0.041 | 2-inch | 2-inch = 0.162 | | n = 0.653 | 1 gallon = 3 | 3.785 liters | 12,00 |
| | | | | | PUI | RGING DATA | 1 | | | | |
| Purge Meth | od: | PERIS | TALTIC | | Pump Intake | Depth: | 2' BE | LOW WAT | tel | | Comments |
| Sampling M | ethod: | | -FLOW | | Tubing Type | : | DEDICE | TEP TEF | ion : | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pН | Temp Cond DO (μS/cm) (ppm) | | | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | | | GOM | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1448 | 3,5 | 3.5 | 2,99' | 0.15 | 6,62 | 10,03 | 4106 | 0,55 | 53,8 | 2,70 | CLEAR |
| 1453 | 0,5 | 4,0 | 2,99' | 11 | 6,58 | 10.11 | 1,088 | 0.43 | 55,5 | 0,41 | tı . |
| 1458 | 0,5 | 4,5 | 7.99' | p | 6,57 | 10,12 | 1,087 | 0.29 | 56.3 | 0,39 | // |
| 1503 | 0,5 | 5.0 | 2.99 | J1 | 6,54 | 10,13 | 1,072 | 0.25 | 56.8 | 0.38 | 4 |
| 1508 | 0,5 | 5,5 | 2,99 | 31 | (0,52 | 10,13 | 1,062 | 0.27 | 57,6 | 0.37 | ¥ |
| | | | | | | 1-2 | | | | | |
| | | | | | | 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | | | ě | | |
| | | | | | | | of the | | | | |
| | | | | | | | - | | | | · |
| | | Clar | ity: VC = ve | ery cloudy, | CI = Cloudy, SAN | SC = slightly IPLING DATA | | = almost clea | r, C = clear | | |
| Sampl | e ID: | WM- | 060 | Sampling l | Flow Rate | 0.15 |) | Analytical La | boratory: | E. | 5C |
| Sample | Sample Time: 1510 Final D | | | | | 2,50 | > | Did Well Dev | vater? | | MO |
| # Containe | ers/Type | Preser | vative | Analys | is/Method | Field Fi | Itered | Filter | Size | MS/MSD | Duplicate ID |
| Zx IV P | | The state of the s | | ρε | | yes | (no) | | Part or a section | togetom- | ALTS - |
| | | | | | | yes | no | | • | | |
| | | | | | | yes | no | | | | |
| | | | | ž. | | yes | no | | | | |
| | | | | | | yes | no | | - | | |
| | | | | | | yes | no | | | | |
| | | | | | | OMMENTS | | | | | <u> </u> |

| | | | | VV | ELL MOMI | ONING DA | IA SHEET | | | | |
|-------------|------------------------------|--------------------------------------------|--------------|--------------------------|---------------|-----------------------------|-----------------|---------------|---------------|---------------------|-----------------------------------------|
| | - | | | | Well I.D. | MW | 1-065 | | Job Number | 1843 | -00/12 |
| A. | Ach Cred | ek Associ | iates Inc | | Client: | DE Q | | | Date: | 04/2 | 6 |
| F 6 | vironmental and (| ek Associ Geotechnical Consult | iants | • | Project: | TAYLO | R LVM | SER | Sampler: | M | |
| | | | | | Weather: | | 405-5 | | Time In/Out: | | |
| | | | | | N | VELL DATA | | | | | |
| Well Depth: | | 104 |) | | Well Diamet | er: | 2" | | Water Heigh | nt | 9,03 |
| Depth to Wa | ater: | 2,8 | | | Screened Int | terval: | 6,5 | -11.4/ | x Multiplier | | 0,162 |
| Water Colu | nn Length: | 9,0 | 3' | | Depth to Fre | e Product: | gar- | | x Casing Vo | lumes | 3 |
| Purge Volur | ne: | | 15 GAL | - | Free Produc | t Thickness: | 3: | | = Purge Vol | ume | 1.40 |
| Water H | leight Multip | | | = 0.041 | 2-inch | = 0.162 | 4-incl | า = 0.653 | 1 gallon = 3 | 3.785 liters | 4.40 |
| | | | | | PUI | RGING DATA | 4 | | | | |
| Purge Meth | od: | | | Ç 2006 | Pump Intake | Depth: | | | | | Comments |
| Sampling M | ethod: | | | | Tubing Type | : | | | | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pН | Temp (°C) | Cond (µS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1537 | 1.50 | 1.50 | 5,02 | 0.14 | 7,46 | 11.16 | 2,175 | 9,35 | -94,8 | 0.71 | <u>C</u> |
| 1548 | 1,50 | 3,00 | 5,17 | de se | 7,52 | 12.12 | 2,781 | 8.14 | -77,5 | 0.83 | C |
| 1558 | 1.50 | 4,50 | 5,28 | 11 | 7,100 | 12,26 | 3,148 | 7,19 | -73,4 | 0.79 | C |
| 1603 | 0.75 | 5,26 | 4,63 | ١, | 7,61 | 12.16 | 3,151 | 6,28 | -100.2 | 0,76 | <u></u> |
| 1608 | 0.75 | 6,00 | 4.45 | f to | 7,61 | 12.11 | 3,147 | 607 | -102,5 | 070 | C |
| 1613 | 0.71% | 6,50 | 4,23 | h. | 7,62 | 12.06 | 3,139 | 5.72 | -106.4 | 0,67 | C |
| | | | | | | | | | | | |
| | | | | | | | | | | | *************************************** |
| | | | | | | | | | | | |
| | | Clari | ity: VC = v | ery cloudy, | Cl = Cloudy, | SC = slightly IPLING DAT | | = almost clea | ar, C = clear | | |
| Sampl | o ID: | MW-06 | <u> </u> | Sampling | | | | Analytical La | horatory: | | 5C |
| Sample | | 1620 | | | oth to Water: | 4,15 | 1 | Did Well Dev | | | VO |
| # Contain | | Preserv | | | sis/Method | Field F | | | r Size | MS/MSD | Duplicate ID |
| 7 u 11 | h L | Preserv | | PC | | yes | no | | | IVIG/IVIGD | Dupilicate ID |
| <u> </u> | nų | JVUIV. | سنتا | | | yes | no | | | | |
| | | | ÷ | | | yes | no | | | | |
| | | | | | | yes | òno | | | | |
| | | · | | | | yes | no | | | | |
| · | | | | , | | yes | no | | | | |
| | | | *** | | С | OMMENTS | | | | | |

| | | | | | Well I.D. | MW-9. | 5 | | Job Number | 1843 | -00 /TZ |
|------------|------------------------------|--------------------------------------------|--------------|--------------------------|-----------------------------------------|--------------|-----------------|---------------|---------------|---------------------|-----------------------------------------|
| A | Ash Cre | ek Associ | ates Inc | i | Client: | DEQ | | | Date: | 04/21 | 0/11 |
| 7 | invironmental and (| ek Associ Geotechnical Consult | ants | • | Project: | TAYLOR | . LUME | 3EK | Sampler: | MW | .* |
| | | | | | Weather: | | 40'5-5 | | Time In/Out: | 1700 | |
| | | | | | N | VELL DATA | | 1 | | | |
| Well Depth | | 14,5 | 3 | | Well Diamet | er: | 2 | žt. | Water Heigh | nt | 8.20 |
| Depth to W | ater: | 6.10 | | | Screened Int | terval: | 6.3- | 13.3' | x Multiplier | | 0.162 |
| Water Colu | mn Length: | 8.2 | . D | | Depth to Fre | e Product: | | | x Casing Vo | lumes | 1,32×3 |
| Purge Volu | me: | 4.2 | 15 GAL | | Free Produc | t Thickness: | | | = Purge Vol | ume | 4.0 |
| Water H | Height Multi | pliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | 3.785 liters | |
| | | | | | PUI | RGING DATA | <u> </u> | | | | |
| Purge Meth | od: | DE014 | MYTIC | | Pump Intake | Depth: | 21 BE | LOW SURF | ACE | c | omments |
| Sampling M | lethod: | JOW-F | MN | | Tubing Type | : | TEFL | ON | | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pН | Temp (°C) | Cond (μS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| ļ | | | <u> </u> | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1723 | 1.33 | 1,33 | .6.68 | 0,14 | 6.03 | 10,67 | 123 | 5,70 | 81,6 | 1.13 | Ç |
| 1933 | 1,33 | 2.66 | 6.68 | // | 6,03 | 10.68 | 125 | 5,53 | 98.2 | 1.1/ | C |
| 1743 | 1.33 | 4,0 | 6.68 | lr . | 6,05 | 10,67 | 127 | 5,49 | 103,0 | 1.09 | C |
| | | | | | | | | | | | |
| | | | | | | | | | 14.000 | | |
| | | | | | | | | | | | *************************************** |
| | | | | | | | | | | | - Large and a second |
| | | | | | | | | | | | |
| | | | | | | | <u> </u> | | | | |
| | | Clari | ity: VC = V | ery ciouay, | | IPLING DATA | | = almost clea | ır, ∪ = clear | | . 1 |
| Samp | le ID: | MW-9 | 4 | Sampling | Flow Rate | 0,14 | | Analytical La | boratory: | E30 | |
| Sample | | 1750 | , | | oth to Water: | 6,59 | | Did Well Dev | | | 10 |
| # Contain | | Presen | | | is/Method | Field Fi | | | Size | MS/MSD | Duplicate ID |
| :2x 12 | | Augustus Vocabusus | | R | D | yes | (no) | | ester and | Ren zegizi, | 1620-1 weekste |
| | | | | Ŧ | | yes | · no | | | | |
| | | | | | | yes | . no | | | | |
| | | | | | | yes | no | - 14 | | | |
| | | | | | 6 | yes | no | | | | |
| | | | _ | | *************************************** | yes | no | | | | |
| | | | | | C | OMMENTS | | • | | | |
| | •. | | | | | | | | | | |
| | | | | | | | č" | | | | |

| Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: MW-165 Sample Flow Rate OHD Sample Flow Rate OHD Sample Time: O800 Final Depth to Water: 3,15 O.15 O.16 O.16 O.17 O.17 O.17 O.18 O.17 O.18 | | | | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|----------------------|-------------|-------------|--------------|--------------|---------|---------------------------------------|---------------|--------------|--------------------------------|
| Project: Thylod Miles Sampler: MW Wester Miles M | ζ. | | | | | Well I.D. | MW-16: | 5 | | Job Number: | 1943. | 00/TZ |
| Project TAYLOF MVB 2 Sampler MW Westher: Project TAYLOF MVB 2 Sampler MW MVB M | Å A | ich Cre | ek Associ | iates Inc | • | Client: | DEQ | | | Date: | 04/27 | 11 |
| Weather: Captivity Capti | En. | inonmental and (| Georechnical Consult | iants | | Project: | | - Lune | t:12 | Sampler: | MW | , |
| Well Depth: 13.5 Well Diameter: 2 Water Height 10.75 | | | | | | Weather: | | ····· | | Time In/Out: | 0710 | 1 |
| Depth to Water: 2,75 | - | | | | | M | VELL DATA | 35 | | | | |
| Water Column Length 10-75 Depth to Free Product: | Well Depth: | | 13,5 | <u> </u> | | Well Diamet | er: | 2 | . '' | Water Heigh | nt | 10.75 |
| Purge Volume | Depth to Wa | ter: | 2,75 | | | Screened In | terval: | 8.5- | 13,5 | x Multiplier | | 0.162 |
| Water Height Multipliers (gal) | Water Colum | n Length: | 10_7. | 5 | | Depth to Fre | e Product: | person. | | x Casing Vo | lumes | 1.75 x 3 |
| Purge Method: | Purge Volum | ie: | 5.7 | 5 GAL | | Free Produc | t Thickness: | | · · · · · · · · · · · · · · · · · · · | = Purge Vol | ume | 5,25 |
| Pump Intake Depth: 2' ELICAL WATTEL Comments | Water He | eight Multip | oliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-inc | h = 0.653 | 1 gallon = 3 | 3.785 liters | |
| Sampling Method: LOW FLOW Tubing Type: PEDICATED TEFFON | | | | | | PUI | RGING DATA | | | | | |
| Time Volume Purged (liters) DTW Purge Rate PH (1.0min) DTW Purged (liters) PH (1.0min) PH-0.1 +1-0.5° C +1-5% +1-0.5 pm +1-20mV +1-10%sublitation criteria DT%2 1.75 1.75 2.71 0.15 6.36 11.6% 17.3 0.31 130.1 0.41 C 1.75 0.74 1.75 3.50 3.73 11 6.44 11.80 49.2 0.22 120.4 0.41 C 1.75 0.762 1.75 5.25 2.73 11 6.44 11.80 49.2 0.21 11.8.7 0.40 C 1.75 0 | Purge Metho | d: | PERMAIT | IC | 722_ | Pump Intake | Depth: | 2' 8 | ELOW W | ATTER | | Comments |
| Time | Sampling Me | thod: | | FLOW | | Tubing Type | : | DEDIC | CATED TE | Flon | | |
| 1.75 1.75 3.71 0.15 0.36 11.68 473 0.31 130.1 0.41 C | Time | Purged | Volume Purged | ı | Rate | pН | 1 | i | i | | , - | Clarity/Color Other Remarks |
| 0742 1.75 3.50 3.73 | | | | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 0742 1.75 3.50 3.73 □ 6.4□ 11.80 492 0.22 120.4 0.4□ C 0752 1.75 5.25 5.73 □ 6.4□ 11.87 499 0.2□ 178.7 0.40 C Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: MW-16≤ Sampling Flow Rate 015 Analytical Laboratory: ESC Sample Time: 0.600 Final Depth to Water: 3.15 Did Well Dewater? No # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 → AG | 0732 | 1.75 | 1.75 | 3.71 | 0.15 | 6.36 | 11.68 | 473 | 0.3 | 130.1 | 0.41 | C |
| 1.75 5.25 5.73 | 0747 | 1.75 | 3.50 | | 11 | 6.41 | 11.80 | 492 | 0.22 | 120.4 | 0.41. | ^ |
| Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: MW-16 Sampling Flow Rate DM Analytical Laboratory: ESC Sample Time: 0'800 Final Depth to Water: 2,15 Did Well Dewater? ND # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID Yes no yes no yes no yes no | , | | | | | | | 1 | | | | |
| Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: | 0107 | 1:15 | 0165 | 1 | 1 11 | 0,37 | ,0 | 777 | 0.21 | 1170,1 | 0,40 | <u> </u> |
| Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: | | | ···· | | | | | | | | | |
| Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: MW-16 Sampling Flow Rate DB Analytical Laboratory: ESC. Sample Time: 0%00 Final Depth to Water: 3,15 Did Well Dewater? No # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 7 x 1 x 46 yes no yes no yes no yes no | | | | | | | | | | | | |
| Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: MW - 16 Sampling Flow Rate Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID Yes no yes no yes no yes no yes no | d . | | | | | | | | | | | |
| Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L AG PCP yes no yes no yes no yes no yes no | | | | | | | | | | | | |
| Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L AG PCP yes no yes no yes no yes no yes no | | | | | | | | | | | | |
| Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L AG PCP yes no yes no yes no yes no yes no | | . 1 | | | | | | | | | | |
| Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L AG PCP yes no yes no yes no yes no yes no | , , | | | | | | | | | | | |
| Sample ID: MW-165 Sampling Flow Rate DW Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L AG PCP yes no yes no yes no yes no yes no | , and the second | , | | | | | | | | | | |
| Sample ID: MW-165 Sampling Flow Rate DM Analytical Laboratory: ESC Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? No # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 x 1 L AG | : | | Clar | ity: VC = v | ery cloudy, | | | | = almost clea | ar, C = clear | | |
| Sample Time: 0800 Final Depth to Water: 3,15 Did Well Dewater? No # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 7 × 1 → AG PCP yes no yes no yes no yes no yes no yes no | Sample | · ID· | MW-I | 65 | Sampling | | | - | Analytical La | horatory: | 1 | -S(|
| # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID Z × 1 \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \ | , | | | | | | | | | | | |
| Z × I L AG MW-165 DI yes no yes no yes no yes no | | | | | 1 | | | | | | | |
| yes no yes no yes no yes no yes no | | | | | 25 | | | | | | | MW-16500 |
| yes no yes no | | ···· | | | | | yes | no | | | | |
| yes no yes no | | | | | | | yes | no | , | | | |
| | | | | | | | yes | no | | • | | |
| yes no | | | | | | **** | yes | no | | | | |
| COMMENTS | | | | | | | | no | | | 1, | |
| | | | | | | - | | | | | | |
| | | | | | | | | | | | | |

| | | | | | LLL MONT | | | | 1 | | 7 |
|-------------|---------------------------------------|-----------------------------------|--------------|-----------------|---------------|---------------|-----------------|-----------------|-----------------------------------------------|---------------------|-------------------------------|
| | | | | | Well I.D. | PZ-10 | 7 | | Job Number: | | 00/TZ |
| | Ash Cred | ek Associ | iates Inc | | Client: | PER | | | Date: | 04/ | 27 |
| ₹ £ | nvironmental and (| ek Associ Geotechnical Consult | iants | •• | Project: | TAYLOR | LUME | ek. | Sampler: | MW | |
| | | | | | Weather: | MCLEAR | (605) | | Time In/Out: | | |
| | | | | | ٧ | ÆLL DATA | | | | | |
| Well Depth: | | - | 2.2' | | Well Diamet | er: | Z' | | Water Heigh | nt | 8,8 |
| Depth to Wa | ater: | 3.4 | 0 | | Screened In | terval: | 9.1 | 2' | x Multiplier | | 0.162 |
| Water Colu | | G | ,80' | | Depth to Fre | e Product: | | | x Casing Vo | lumes | 1.42×3 |
| Purge Volur | | í | 5 GAL | | Free Produc | | | - argumin | = Purge Vol | | 4,25 |
| | leight Multip | | , | = 0.041 | | = 0.162 | 4-incl | h = 0.653 | 1 gallon = 3 | | |
| | | | L | | | RGING DATA | <u> </u> | | | | |
| Purge Meth | od: | PAR15 | TAVIC | ···· | Pump Intake | Depth: | 2' 50 | LOW W | ATER. | | Comments |
| Sampling M | | | -FLOW | • | Tubing Type | | | | FLON | | |
| <u></u> | Volume | Cumulative | | Purge | | | | | | « / | * |
| Time | Purged (liters) | Volume Purged (liters) | DTW (btc) | Rate (L/min) | pН | Temp (°C) | Cond (µS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remark |
| | | | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteri |
| 0825 | 1.42 | 1.42 | 3.70 | 0,15 | 6.86 | 10.82 | 352 | 0.43 | 141,5 | 3.35 | <u>e</u> |
| 0834 | 1.42 | 2.84 | 3,74 | 2.2 | 6,85 | 11,15 | 417 | 0.23 | 158.7 | 18.2 | C |
| 0843 | 1.42 | 4.26 | 3.75 | 11 | 6,8 | 11.24 | 421 | 0.21 | 159,0 | 17.8 | <u> </u> |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | ı. | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | - many | | annu y | | - |
| | | Clar | ity: VC = v | ery cloudy, | | SC = slightly | | : = almost clea | r, C = clear | <u> </u> | |
| | | Dr. 1 |) | 0 | - | <u> </u> | | A | h 4 | ESC | |
| Sampl | | PZ-102 | | Sampling | | 0.15 | | Analytical La | | | |
| Sample | | 0850 | | | oth to Water: | 3,46 | | Did Well Dev | *** | N | |
| # Contain | · · · · · · · · · · · · · · · · · · · | Preser | vative | | is/Method | Field Fi | Itered | 4 | Size | MS/MSD | Duplicate ID |
| 2×1-1 | 49 | som per | | l PC | 4 | yes | | риг | <i>(</i> ************************************ | giants Ass. | |
| | | W-1 | | | | yes | no | 'a . | | | |
| | | | | | _ | yes | no | <u> </u> | ····· | | |
| | | | | | | yes | no | | | 液 | |
| - | | | | .` | | yes | no | | | - | * * . |
| | | | | | | yes | no | | | | * |
| | | | | | | OMMENTS | | | | | * : |

| | | | | | TEL MONT | · · · · · · · · · · · · · · · · · · · | | | T | | |
|-----------------------------------------|--------------------|-----------------------------------------|--------------|-----------------|---------------|---------------------------------------|-----------------|-----------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| | | | | | Well I.D. | MW-I | 035_ | | Job Number: | 1843. | 00/12 |
| Å A | sh Cree | ∍k Associ | iates Inc | • | Client: | TEQ | | | Date: | 04/2 | 7/11 |
| Env | rironmental and C | ek Associ Georechnical Consul | iants | | Project: | TAYLO | 2 LUME | 一起 | Sampler: | MW | • |
| | | | | | Weather: | CLEAR | (605) | | Time In/Out: | | |
| | | | | | . N | ELL DATA | | | | | |
| Well Depth: | | 16 | .0' | | Well Diamet | er: | 7 |) ^{pa} | Water Heigh | nt . | 12,39 |
| Depth to Wat | ter: | 3,6 | | | Screened Int | terval: | | 5-15,5 | x Multiplier | | 0,162 |
| Water Colum | | | 39' | | Depth to Fre | e Product: | | | x Casing Vo | lumes | 2,0×3 |
| Purge Volum | | | 25 GAL | | Free Produc | · · · · · · · · · · · · · · · · · · · | | | = Purge Vol | | 6.0 |
| | eight Multip | | | = 0.041 | | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | | 7.0 |
| *************************************** | , ig. 1 | (9) | | | | RGING DATA | | | 1 3 | | |
| Purge Metho | d: | PERIST | ALTIC | | Pump Intake | Depth: | 2' B | ELOW W | ATEZ | | Comments |
| Sampling Me | | *************************************** | FLOW | | Tubing Type | | | ATED TR | | | |
| | Volume | Cumulative | | Purge | 1.009 . 7 / 0 | | | | | | <u> </u> |
| Time | Purged (liters) | Volume Purged (liters) | DTW (btc) | Rate (L/min) | рН | Temp (°C) | Cond (μS/cm) | (ppm) | ORP: (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 0925 | 2.0 | 2.0 | 5.02 | 0.16 | 6,00 | 12.04 | 476 | 0,70 | 142,9 | 0,64 | <u>C</u> |
| 6935 | 2,0 | 4.0 | 5,10 | 12 | 6,00 | 12.04 | 475 | 0.43 | 1429 | 1,45 | C |
| 0945 | 2.0 | 6,0 | 5.11 | . 12 | 6.00 | 12.01 | 476 | 0,39 | 144.0 | 1,36 | C |
| | | | - 100 1100 | | | , | | | And opposite the | | |
| | | | | | | | | | | | |
| - | | | | | | | | | | _ | · . |
| | | Clar | ity: VC = v | ery cloudy, | CI = Cloudy, | SC = slightly IPLING DAT | | = almost clea | ar, C = clear | | |
| | | M 1. | 20 | | | | | | 1 | E | · /* |
| Sample | 1 | MW-[(| W- | Sampling | | 0,16 | | Analytical La | | the state of the s | |
| Sample 1 | | <u> </u> | | | oth to Water: | 3.77 | | Did Well Dev | | | No |
| # Container | - | Preser | vative | | is/Method | Field F | iltered (no) | Filter | Size | MS/MSD | Duplicate ID |
| ZXILA | 4 | Assist Applica | | PC | - Pro- | yes | | | es. _{Al} linos. | satism jenka, | Albert Albert |
| · · · · · · · · · · · · · · · · · · · | | *************************************** | | | | yes | no | | | | |
| | | *************************************** | | | | yes | no | | * | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | - |
| *************************************** | | | | l | | yes | no | | • | | |

| | | | | VV | ELL MONII | ORING DA | A SHEE | | | | |
|-------------|------------------------------|--------------------------------------------|--------------|--------------------------|---------------------|---------------------------|-----------------|---------------|---------------|---------------------|--------------------------------|
| | | | | | Well I.D. | MW-20 | 5 | | Job Number | : 1843 | -00/12 |
| À. | Ach Cree | ek Associ | iates Inc | | Client: | PEQ | | | Date: | 04/2 | =7/U |
| ** E | nvironmental and (| ek Associ | iants | •• | Project: | TAYLOR | LUME | SEE. | Sampler: | MW | |
| | | | | | Weather: | MOSTLY | | | Time In/Out: | 1000 | 7 |
| | | · | | | М | /ELL DATA | | | | | |
| Well Depth: | | parente | 4,5 | | Well Diamet | er: | 2 | li | Water Heigl | nt | 11.23 |
| Depth to W | ater: | 5, | 18'-25 | 51=3,27 | Screened In | terval: | 4,0 | 14.0' | x Multiplier | | 0,162 |
| Water Colu | mn Length: | | 23 | | Depth to Fre | e Product: | | . yeak. | x Casing Vo | lumes | x 3 |
| Purge Volui | me: | 5 | ,5 GAL | - | Free Produc | t Thickness: | pun | · DEN | = Purge Vol | ume | 1.80 |
| Water H | leight Multip | oliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | 3.785 liters | 5.4 |
| | | | | | PUI | RGING DATA | <u> </u> | | | | |
| Purge Meth | od: | PERIS | TALTIC | e | Pump Intake | Depth: | 3/ 5 | ELOW W | MTER | | Comments |
| Sampling M | lethod: | | y Fron | | Tubing Type | : | DEDI | CATED | EFLON | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pН | Temp (°C) | Cond (μS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | (mcrs) | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1015 | 1.8 | 1,8 | 8.02 | 0,15 | 5.97 11.02 108 1.13 | | | 1,13 | 46.7 | 44,6 | AC |
| 1027 | 1.8 | 3.6 | 8,54 | Fr . | 6,09 | 11.37 | 135 | 0,23 | 25,0 | 31,4 | n |
| 1039 | 1.8 | 54 | 8,58 | 7, | 6,13 | 11,29 | 144 | 0.25 | 22.0 | 29.9 | ly . |
| VA | | | | | | | | | | | · |
| | , | - Amarika | | | | | | | | | |
| | | | | | | | | | | - 185° | |
| | | | | , | | | | | | | |
| | | Clar | ity: VC = v | ery cloudy, | Cl = Cloudy, | SC = slightly IPLING DATA | | = almost clea | ar, C = clear | | |
| Samp | le ID: | | ns | Sampling | | 0.15 | | Analytical La | horatory. | = | SC |
| Sample | | 1045 | | | oth to Water: | 8,05 | - 1 | Did Well Dev | | 1 | NO |
| # Contain | | Presen | | | sis/Method | Field Fi | | | Size | MS/MSD | Duplicate ID |
| ZXIL | | FIESE! | vauve | PC | | yes | (no) | 1 11(6) | JIEC . | | Dupinoate iD |
| -11- | 1 | | | 4 24 | | yes | no | | | | |
| | | | | | _ | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | ······ | | | yes | no | | | | |
| | | | | | - | yes | no | | | | |
| | | | | | | OMMENTS | | <u> </u> | | <u> </u> | <u> </u> |

| Client PES | | | | | | Well I.D. | MW-1 | 16 | | Job Number | 14413. | -06/TZ |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------|----------------|---------------|--------------------------------------------------|-----------|---------------|----------------|--------|--------------------------|
| Project | | A 1. C | -1. A: | | | 46.1.4 | | 1 200 | | | , | , , |
| Weather: P.CADPY So.3 <ab style="color: lightgray;">Well Dearber: P.CADPY So.3 <ab style="color: lightgray;">Well Dearber: P.CADPY So.3 <ab style="color: lightgray;">VELI DATA Dearber: P.CADPY So.3 C. J. J.</ab></ab></ab> | | AST Creation of the Control of the C | CK /\SSOCI Geotechnical Consult | iates, Inc | | | | LIME | en P | , | - | |
| Well Depth: 15.5 Well Diameter: 2." Water Height 12.06 | | | | | | | | A | A 40 | | / | |
| Depth to Water: 5,06-1,72=7,84 Screened Interval: 5,0-15,1 x Multiplier 0,162 2,05 x 2 | | | | | | | <u> </u> | 1200 | | 171110 111/041 | 110 24 | |
| Depth to Water: 5,06-1,72=7,84 Screened Interval: 5,0-15,1 x Multiplier 0,162 2,05 x 2 | Well Depth | | 15.5 | 1 | | Well Diamet | er: | 7 | 1/ | Water Heigh | nt | 12.66 |
| Water Column Length: 12,166 Depth to Free Product: | | | 5.00 | 0-2,22 | = 2,84' | | | | | | | |
| Purge Volume | • | | 3 | | | | | | _ | x Casing Vo | lumes | |
| Water Height Multipliers (gal) | ` | | | | | | | 254 | No. | | | T |
| Purge Method: Purge Purge Method: Purge Purge Purge Purge (liters) Purge (liters) Purge (liters) Purge (liters) Purge Purge Purge (liters) Purge Purge (liters) Purge Purge (liters) Purge (l | | | | | | <u> </u> | | 4-incl | n = 0.653 | | | |
| Tube | | | | | | | | <u> </u> | | | | |
| Tube | Purge Meth | od: | DERIG | STALTIC | g gener | Pump Intake | Depth: | 3' bt | TOW W | ATTR | | Comments |
| Time | Sampling M | lethod: | | | | Tubing Type | : | | | | | |
| 1 | Time | Purged | Volume Purged | l | Rate | pН | 1 | Cond | DO | ORP | | |
| 1 28 2,05 4,10 7,56 " 5,76 1 .26 165 0.29 127,0 3,03 C 1 43 2,05 6,15 7,53 " 5,79 1 .24 165 0.26 132,4 3.13 C | * | | (IIIC) | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 143 2.05 6.15 7.53 ' 5.79 11.24 165 0.26 132,4 3.13 C | 1113 | 2.05 | 205 | 7,5) | 0.14 | 5.63 | 11,23 | 163 | 0.47 | 108.6 | 3,8 | C |
| 143 2,05 6,15 7,53 ' 5,79 11,24 165 0,26 132,4 3,13 C | 1128 | 2.05 | 4.10 | 7,56 | I ₂ | 5.76 | 11.26 | 165 | 0.29 | 127.0 | 3,03 | C |
| Clarity: VC = very cloudy, CI = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: | | 2.05 | 6,15 | | 1, | | | 165 | | 132,4 | l | C |
| Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear SAMPLING DATA Sample ID: | | | | | | | | | | | | |
| Sample ID: MW-195 Sampling Flow Rate 0, 14 Analytical Laboratory: ESC Sample Time: 1/50 Final Depth to Water: 0, 14' Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L A4 - PCP yes no | | | MP | | | | | | | | | |
| Sample D: MW - 95 Sampling Flow Rate 0, 4 Analytical Laboratory: ESC | | | - | | | | | | | | | |
| Sample ID: MW-195 Sampling Flow Rate 0, 14 Analytical Laboratory: ESC Sample Time: 1/50 Final Depth to Water: 0, 14' Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L A4 - PCP yes no | | | | | | | | | | | | |
| Sample ID: MW-195 Sampling Flow Rate 0, 14 Analytical Laboratory: ESC Sample Time: 1/50 Final Depth to Water: 0, 14' Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L Aq - PCP yes no | | | Clar | ity: VC = v | ery cloudy | Cl = Cloudy | SC = elightly | cloudy AC | = almost clos | r C = clear | L | |
| Sample Time: 1/50 Final Depth to Water: (0, 14) Did Well Dewater? NO # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 × 1 L A4 PCP yes no | | | Olai | ,. VO – V | c.y cloudy, | | | | - | ii, O oldai | | |
| # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 x L Aq | Samp | le ID: | MW- | 195 | Sampling | Flow Rate | 0,14 | | Analytical La | boratory: | ES | Low |
| # Containers/Type Preservative Analysis/Method Field Filtered Filter Size MS/MSD Duplicate ID 2 x L Aq | Sample | Time: | //50 | | Final Dep | oth to Water: | 6.14 | 1 | Did Well Dev | vater? | | 10 |
| 2 x 1 L Aq PCP yes no yes no yes no | # Contain | ers/Type | Preser | vative | Analys | is/Method | | | Filter | Size | MS/MSD | Duplicate ID |
| yes no | | | park garden | | | | yes | (no) | ton | 7664 | | Terreno 1000ani |
| yes no yes no yes no | | | | | | | yes | no | | | | |
| yes no yes no | | | | | | | yes | no | | | | |
| yes no | | | | | | | yes | no | | | | ,, |
| | | | | | | | yes | no | | | | |
| COMMENTS | | | | | | | yes | no | | | | |
| | | | | | | | OMMENTS | | • | | | |
| | | | | | | - | | | | | | |

| | | | | | Well I.D. | PZ-101 | * | | Job Number | : 1843- | 00/TZ |
|-------------|------------------------------|--------------------------------------------|--------------|--------------------------|--------------|---------------------------|--------------------------|---------------------------------------|--------------|---------------------|--------------------------------|
| A. | Ash Cred | ek Associ | ates Inc | | Client: | PEQ | | | Date: | 64/27 | /11 |
| F E | invironmental and (| ek Associ Geotechnical Consult | ants | • | Project: | TAYLOR | 2 LUM | EER | Sampler: | MW | |
| | | | | | Weather: | M. CLET | | * | Time In/Out: | 1200/ | |
| | | | | | N | ELL DATA | | | | · · | |
| Well Depth: | | 13 | ,5 | | Well Diamete | er: | 1 | ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł ł | Water Heigh | nt | 11,60 |
| Depth to W | ater: | 3,5 | 2-1.68 | =1.54 | Screened Int | terval: | 7-12 | >.0' | x Multiplier | | 0.167 |
| Water Colu | mn Length: | 11,0 | 66 | | Depth to Fre | e Product: | | ***** | x Casing Vo | lumes | 1,98 ×3 |
| Purge Volui | me: | 7,5 | SHAL | | Free Produc | t Thickness: | | all how | = Pùrge Vol | ume | 5.64 |
| Water H | leight Multi | oliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | 3.785 liters | • |
| | | | | | PUI | RGING DATA | \ | | | | |
| Purge Meth | iod: | DERIS | THUTIC | | Pump Intake | Depth: | 4.5' | BELOW ! | NATER | c | omments |
| Sampling M | lethod: | | FLOW | | Tubing Type | : | DEDIC | MED TER | LON | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pH +/-0.1 | Temp (°C) +/-0.5° C | Cond (μS/cm) +/-5% | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria | | | | | |
| 1220 | 1,8% | 1,88 | 8,42 | 0,15 | 6.07 | 11.27 | 248 | 1,55 | 91,2 | 2.83 | AC |
| 1232 | 1,88 | 3.76 | 8.22 | 11 | 6.12 | 11.84 | 254 | 2.24 | 95,6 | 0.52 | AC |
| 1248 | 1.88 | 5.64 | 8.11 | /: | 6.10 | 11.72 | 255 | 1.08 | 82.3 | 0.51 | AC |
| 1256 | 1,88 | 7,5 | 6,09 | 11 | 6.09 | 11.79 | 256 | 099 | G1,7 | 0.47 | AC |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | · |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | Clari | ty: VC = v | ery cloudy, | | SC = slightly IPLING DATA | | = almost clea | r, C = clear | | |
| Samp | le ID: | PZ-10 | 1 | Sampling I | Flow Rate | 0.15 | ar. | Analytical La | boratory: | E | SC |
| Sample | | 1300 | | | th to Water: | 7,8 | | Did Well Dev | | | ES |
| # Contain | | Preserv | | | is/Method | Field Fi | | Filter | | MS/MSD | Duplicate ID |
| 2 × 12 | AG | | | PC | | yes | (no) | gam. | | | |
| | | | | 1 | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | 1 |
| | | | | | C | OMMENTS | | L | | | |
| | | | | | | | | | | | |
| | | _ | | | | | | | | | |

| | | | | 44 | T | ORING DA | A SHEET | | 1 | T , | 10- |
|---------------------------------------|------------------------------|---------------------------------|--------------|--------------------------|---------------|------------------------------|-----------------|---------------|---------------|---------------------|--------------------------------|
| b. | | | | | Well I.D. | MW-15 | | | Job Number | 1843- | 00/12 |
| A P | Ash Cre | ek Assoc Geolechnical Consul | iates, Inc | | Client: | | | | Date: | 04/27/ | 11 |
| F 6 | nvironmental and (| Geotechnical Consul | tanis | | Project: | | | | Sampler: | MW | |
| | | | | | Weather: | CLOUDY | (60'5) | | Time In/Out: | 1310/ | |
| | | | | | <u> </u> | ELL DATA | | | | * | <u></u> |
| Well Depth: | | 15' | | | Well Diamet | er: | 2' | , | Water Heigl | ht | 11,97 |
| Depth to Wa | ater: | 3,0 | <u> </u> | | Screened In | terval: | 9,5-1 | 4-5 | x Multiplier | | 0,162 |
| Water Colui | mn Length: | | | | Depth to Fre | e Product: | emission. | ^ | x Casing Vo | lumes | 1.94 |
| Purge Volur | ne: | 6,0 | GAL | | Free Produc | t Thickness: | | etos. | = Purge Vol | ume | ×3 |
| Water H | leight Multip | pliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | 3.785 liters | 5,82 |
| | | - | | | PUI | RGING DATA | | | | | |
| Purge Meth | od: | PERIS | TALTIC | PUMP | Pump Intake | Depth: | 2,5' | BELOW | WATER | | Comments |
| Sampling M | ethod: | | 1-Frow | | Tubing Type | : | PEDIO | ATED T | EFLON | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged | DTW (btc) | Purge Rate (L/min) | pН | Temp (°C) | Cond (μS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | ` | (liters) | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1335 | 1.94 | 1.94 | 4,50 | 0.16 | 7,01 | 12,98 | 129.7 | 0,22 | 129,1 | 9,89 | C |
| 1345 | 1.94 | 3,88 | 4,59 | " | 6,99 | 13.69 | 1,318 | 0,15 | 109,4 | 1,44 | C |
| 1355 | 1,94 | 5,82 | 4.60 | # | 6.99 | 13.70 | 1,323 | 0,14 | 99,4 | 1.37 | C |
| | | | | | | | | | | | |
| - | | | | | | | | | | | - |
| · | | | | | | | | : | | | |
| | | | | | | | | | | | |
| , , , , , , , , , , , , , , , , , , , | | | | | | | | | | | |
| | | | | | | | | | | | * |
| | | Clar | ity: VC = ve | ery cloudy, | | SC = slightly IPLING DAT/ | | = almost clea | r, C = clear | <u> </u> | |
| Sampl | e ID: | MM-1 | 5 | Sampling | Flow Rate | 0,16 | | Analytical La | boratory: | Į | <u> </u> |
| Sample | | 1400 | | | oth to Water: | 4,51 | | Did Well Dev | | | NO |
| # Contain | | Preser | | | is/Method | Field Fi | Itered | | Size | MS/MSD | Duplicate ID |
| ZXIL | | Market School | | 75 | CP | yes | (no) | | 1867 - 1864 . | the section | gEQ*** registiv |
| | , | | | - | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | _ | | | | yes | no | | | | |
| ·· | | | | | | yes | no | | • | | |
| | I | | | | C | OMMENTS | | <u> </u> | | 1 | |

| | | | | | | | IA SHEE | | | | |
|-------------|------------------------------|--------------------------------------------|-----------------------------------------|--------------------------|---------------|---------------|----------------------------------------------|---------------|--------------|---------------------|--------------------------------|
| | | | | | Well I.D. | WM-11 | 9 | | Job Number | 18413 | 00/12 |
| | Ash Cree | ek Associ | iates Inc | • | Client: | DEQ | | | Date: | 04/2 | |
| Er Er | vironmental and (| ek Associ Geotechnical Consult | iants | •• | Project: | TAYLOR WMEER | | ER2 | Sampler: | mw | |
| | | | | | Weather: | CLOUPY | (605) | | Time In/Out: | | |
| | | | | | V | VELL DATA | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | | | |
| Well Depth: | | 19:30 | - | | Well Diamet | er: | 2 | , W | Water Heigl | ht | 16.8 |
| Depth to Wa | ater: | 2.70 | <i>'</i> | | Screened In | terval: | 6.5- | 17.5 | x Multiplier | 46 | 0.162 |
| Water Colur | nn Length: | | | | Depth to Fre | e Product: | *** | ent garne | x Casing Vo | lumes | \$ 2,7 ×3 |
| Purge Volur | ne: | , | SCAL | | Free Produc | t Thickness: | <i>س</i> نت ب | New Comment | = Purge Vol | ume | 8,0 |
| Water H | leight Multi | | 1 ' | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | 3.785 liters | |
| | | | | | PU | RGING DATA | \ | | | | |
| Purge Meth | od: | PERIST, | ALTIC I | PUMP | Pump Intake | Depth: | 2' BE | LOW NA | TER | | Comments |
| Sampling M | ethod: | 200,000 | V-FLOW | | Tubing Type | : | DEDIC | ATED TE | Flori | | |
| Time | Volume Purged (liters) | Cúmulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | рН | Temp (°C) | Cond (µS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | (illeis) | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1430 | 27 | 2.7 | 3,71' | 0.16 | 5.91 | 11.20 | 301 | 0.29 | -11.6 | 4,77 | <u></u> |
| 1445 | 2.7 | 5,4 | 3,83 | ξş | 6.37 | 11:28 | 377 | 0.18 | -21.0 | 1.65 | C |
| 1500 | 2.7 | 8,0 | 371' | 81 | 6.40 | 11.41 | 401 | 0,17 | -29,8 | 1,61 | <u>C</u> |
| | | | _ | | | | | | | | |
| | | | | | | | | , | | | |
| | | | | - | | | | | | | |
| * ~ | | | | | | , | | | | | |
| | | | | | | | | | , | , | |
| | | Clar | itv: VC = v | erv cloudv. | Cl = Cloudy, | SC = slightly | cloudy. AC | = almost clea | r. C = clear | | |
| | | | | | | IPLING DAT | | | | , | · . |
| Sampl | e ID: | MW-1 | 15 | Sampling | Flow Rate | 0.16 | · | Analytical La | boratory: | E | 5C |
| Sample | Time: | 1505 | • | Final Der | oth to Water: | 2.9- | <u> [</u> | Did Well Dev | vater? | | No |
| # Containe | ers/Type | Preserv | vative | Analys | is/Method | Field F | iltered | Filter | Size | MS/MSD | Duplicate ID |
| 2416 | 84 | the the | | PC | P | yes | (no) | **** | to Marine | | man in |
| | | | | | | yes | no | | | | ** |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | , | |
| 7 | | | | | | yes | no | | | | , |
| | | | *************************************** | | | yes | no | | | | |
| | | | | | | OMMENTS | | * | | | |

| | | | | 44 | CLL MONI | OKING DA | IA SHEE | | | | 4 |
|-------------|------------------------------|---------------------------------|--------------|--------------------------|---------------|-----------------------------|-----------------|---------------|---------------|---------------------------------------|--------------------------------|
| | | | | | Well I.D. | MW-25 | 5 | | Job Number | 1843 | -00 MZ |
| <u> </u> | Ach Cre | ek Associ | iates Inc | • | Client: | DEQ | | | Date: | 04/5 | 1/11 |
| En | vironmental and (| ek Assoc Geolechnical Consul | tants | ** | Project: | TAYLOR | LUMBE | TR. | Sampler: | M | - |
| | | | | | Weather: | CLOUPY/LIGHTRAIN (605) | | | Time In/Out: | 1520 | / |
| - | · | | | | | ELL DATA | | | | | |
| Well Depth: | | 19,3 | * | ě | Well Diamet | er: | 2' | ŧ | Water Heigl | nt | 13,22 |
| Depth to Wa | | 6,08 | | | Screened In | terval: | 7,1-1 | 7,1 | x Multiplier | | 0.167 |
| Water Colur | nn Length: | 13.2 | | | Depth to Fre | | | (Are | x Casing Vo | lumes | 2.14 |
| Purge Volun | | 6,5 | | | Free Produc | t Thickness: | ور ختر | 93. | = Purge Vol | | 6,42 |
| | eight Multi | | ľ | = 0.041 | | = 0.162 | 4-íncl | n = 0.653 | 1 gallon = 3 | | |
| | <u> </u> | | | - | PUI | RGING DATA | \ | | | · · · · · · · · · · · · · · · · · · · | |
| Purge Metho | od: | PERIST | ALTIC I | PVMP | Pump Intake | Depth: | 2'BE | LOW WA | TER | | Comments |
| Sampling M | | | -FLOW | | Tubing Type | : | | CATE P T | | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged | | Purge Rate (L/min) | рН | Temp (°C) | Cond (µS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| - | | (liters) | | ,, | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1535 | 2.14 | 2,14 | 7,28 | 0.15 | 6,99 | 11.41 | 1,240 | 0,29 | 64,7 | 3,65 | C |
| 1550 | 2,14 | 4,28 | 7.50 | u | 6.97 | 11,59 | 1,231 | 0.19 | 60.1 | 3,29 | C |
| 1605 | 2,14 | 6.42 | 7,55 | 11 | 6,96 | 11,64 | 1,227 | 0,18 | 59,0 | 3.16 | C |
| | 2 - 2 - 2 | | | | | | | œ. | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | - |
| | | | | | | | | 44. | | | |
| | | | | | | | | | | | |
| | | Clar | rity: VC = v | ery cloudy, | CI = Cloudy, | SC = slightly. IPLING DATA | | = almost clea | ar, C = clear | | |
| Sampl | e ID· | NN- | 255 255 | Sampling | | 0,15 | | Analytical La | horatory. | E | <u> </u> |
| Sample | | 1610 | | | oth to Water: | 6,4 | | Did Well Dev | | N | |
| # Containe | | Preser | | | sis/Method | ر م Field F | | | r Size | MS/MSD | Duplicate ID |
| 2 × L | A6 | Preser | vauve | Analys | | yes yes | (no) | | . ~ | INIOUNION | Duplicate ID |
| 211 | rin | | | | A. | yes | no | | | 3 | |
| | | | | | | yes | no | | | | Wi |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | | no | | | | |
| | | | | | | yes | | | | 1 | |

| | | | | | Well I.D. | PW-0 | | | Job Number: | : 1843 | -CO/TZ |
|-------------|------------------------------|--------------------------------------------|-----------------|--------------------------|-----------------------------------------|-----------------------|-----------------|---------------|--------------|---------------------|--------------------------------|
| A. | Ach Cre | ek Associ | atec Inc | | Client: | DEQ | | | Date: | 04/2 | 7/11 |
| ₹6 | nvironmental and | ek Associ Gootechnical Consult | ans | | Project: | TAYLOR | WMBE | RGWM | Sampler: | m | |
| | | • | | | Weather: | overcast cloudy (50%) | | | Time In/Out: | | |
| | | | | | N | /ELL DATA | | | | | |
| Well Depth: | | NUEL | 1024 | | Well Diamet | er: | ME | Thous | Water Heigh | nt | |
| Depth to Wa | ater: | MAEN | -pwd | | Screened In | terval: | <u> </u> | | x Multiplier | | |
| Water Colu | mn Length: | | | | Depth to Fre | e Product: | | | x Casing Vo | lumes | |
| Purge Volur | me: | | | | Free Produc | t Thickness: | | | = Purge Vol | ume | |
| Water H | leight Multi | pliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | h = 0.653 | 1 gallon = 3 | 3.785 liters | |
| | | - | | | PUI | RGING DATA | \ | | | | |
| Purge Meth | od: | IN MEN | L PUMP |) | Pump Intake | Depth: | | MKHOW | N | c | Comments |
| Sampling M | ethod: | LOWF | 200 | | Tubing Type | : | M | ETAL PIP | 124 | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pН | Temp (°C) | Cond (µS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | (1.5.5) | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1704 | | | | ~0.25 | 6.28 | 11.50 | 285 | 4,43 | 238.7 | 6.1 | C |
| 1707 | | | general general | Eş | 6.26 | 11,48 | 279 | 4,21 | 235.6 | 53 | C |
| 1710 | | | plan person | 1, | 6,25 | 11.47 | 274 | 4.05 | -6232,9 | | C |
| | | | | | | | | | | | |
| | | | | | | | | | | , | |
| | , | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | Clori | | on doudy | Cl = Cloudy | SC = aliability | cloudy AC | = almost clea | r C = door | | |
| | | Clan | ity. VC = V | ery Gloddy, | | IPLING DAT | | - annost Gea | i, C - Clear | | |
| Sampl | le ID: | RW-01 | | Sampling | Flow Rate | 0,25 | > | Analytical La | boratory: | September 1 | 56 |
| Sample | | 1715 | | | th to Water: | | | Did Well Dev | vater? | f | <i>'</i> |
| # Contain | | Preserv | /ative | | is/Method | Field F | iltered | | Size | MS/MSD | Duplicate ID |
| 2x1L | | Non | | PC | | yes | (no) | in the second | p | | |
| | 1 | | | | *************************************** | yes | no | | · | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | | | | OMMENTS | | • | | | |
| NOTE: | PUPGE | | | | | | LOW E | 3E FORCE | LOWE | RING. | PURGE |
| PATE | AND | COLLE | CTINA | PARA | METER | | | | | | |

| | | | | | | | | | | | |
|-------------|-----------------------------------------------------|-----------------------------------|--------------|---------------------------------------|---------------|-------------------------|-----------------|---------------------|---------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | с | OMMENTS | 110 | <u> </u> | | | |
| | | | | | | yes yes | no no | | | | |
| | | | | | w.4 | yes | no | | | | |
| | | | | | | yes | no | | | , | * |
| | * | | | | | yes | no | | | | |
| 2×16 | Aq | | | | | yes | (no) | , | htte: hyn | | AND THE PARTY OF T |
| # Contain | ers/Type | Preser | vative | Analys | is/Method | Field F | | Filter | Size | MS/MSD | Duplicate ID |
| Sample | Time: | 174 | 6 | Final Dep | oth to Water: | 10,0 | 1 | Did Well Dew | vater? | <u>^</u> | J0 |
| Samp | le ID: | My- | 105 | Sampling | Flow Rate | 0.11 | | Analytical Lal | boratory: | E | L |
| | | Olai | ,. 🕶 - ٧ | ., sioudy, | | IPLING DATA | | ioot dida | , O 0.0ai | | |
| | | Clar | ity: VC = v | ery cloudy | Cl = Cloudy | SC = slightly | cloudy AC | = almost clea | r C = clear | | |
| | | | | | | | | W _{1. The} | | | |
| | | _ | | | | | | | • | | |
| | | 4 | | | | | | | | | |
| | | | | · · · · · · · · · · · · · · · · · · · | | | | | | | |
| | | | | | | | | | | | |
| 1738 | 0.33 | 1.33 | 0.17 | 1, | 6,48 | 10.01 | 215 | 1.38 | 239,5 | 93.2 | ·/ |
| 1735 | 0.33 | 1.0 | 10.14 | 1, | 6,49 | 10,06 | 216 | 1,45 | 239,4 | 95.6 | |
| 1732 | 0.33 | 0.66 | 10.05 | | 6,50 | 10,07 | 217 | 1.65 | 238,7 | 98,4 | |
| 1729 | 0,33 | 0,33 | 9,93 | 0.11 | 6,55 | 10.10 | 221 | 2,29 | 236,4 | 115 | CI/TAN |
| | | | 200 | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| Time | Volume Purged (liters) | Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | pН | Temp (°C) | Cond (μS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| Sampling M | | | ow-Fia | <u>ა</u> | Tubing Type | : | DEDIC | ATED TEF | LON | | |
| Purge Meth | od: | PERIST | AUTIC | Pump | Pump Intake | Depth: | 2'60 | LOW WA | TER | | Comments |
| Wateri | leight Maith | mera (gar) | 1 -mon | - 0.041 | <u> </u> | RGING DATA | <u> </u> | 1 - 0.000 | 1 gallott = 3 | 1.700 iiters | |
| Purge Volu | me: leight Multi _l | oliere (nal) | 1-inch | = 0.041 | Free Produc | t Thickness: = 0.162 | 4-inch | n = 0.653 | = Purge Vol | | 0,95 |
| Water Colu | | 1.9 | <u> </u> | | Depth to Fre | | _ | | x Casing Vo | | 0.\$2 ×3 |
| Depth to W | ater: | 9,5 | | | Screened In | | 4.5 | 9.5 | x Multiplier | | - 公死 0,16 |
| Well Depth | | 11.5 | | | Well Diamet | er: | 2 | | Water Heigh | nt | 1.97 |
| | | | | | N | ELL DATA | | | T | | |
| | | | | | Weather: | / | 505/60% | | Time In/Out: | | |
| ₽ /E | Ash Creation and and and and and and and and and an | ek Associ Geolechnical Consult | iates, Inc | | Project: | TAYLOR WMBER | | | Sampler: | MW | |
| J. | ~ | | | | Client: | DER | | | Date: | 04/2 | 7/1.1 |

| | | | | | Well I.D. | MW-2 | 45 | | Job Number | 1843. | 00/12 |
|------------|------------------------------|--------------------------------------------|--------------|--------------------------|---------------------|-------------------------------------------|-----------------|---------------|--------------|---------------------|--------------------------------|
| A | Ash Cre | ek Associ | iates Inc | | Client: | DER | | | Date: | 04/27 | /// |
| 7 | Environmental and (| ek Associ Geolechnical Consult | ants | •• | Project: | TAYLOR. | LUMBET | Roman . | Sampler: | MW ' | |
| | | | | | Weather: PAIN (505) | | | Time In/Out: | | | |
| | | | | ą. | М | ÆLL DATA | | | | | |
| Well Depth | : | 17. | 2' | | Well Diamet | er: | 2 | 11 | Water Heigh | nt | 4,26 |
| Depth to W | /ater: | 125 | 74 | | Screened In | terval: | %5 - | 13.5 | x Multiplier | | 6.162 |
| Water Colu | ımn Length: | 4 | 26 | | Depth to Fre | e Product: | _ | | x Casing Vo | lumes | 0.7 ×3 |
| Purge Volu | ıme: | 3.0 | GAL | | Free Produc | t Thickness: | _ | ****** | = Purge Vol | ume | 2.1 |
| Water I | Height Multi | oliers (gal) | 1-inch | = 0.041 | 2-inch | = 0.162 | 4-incl | n = 0.653 | 1 gallon = 3 | .785 liters | |
| | | | | | PUI | RGING DATA | \ # | | | | |
| Purge Meth | nod: | PERIST | ALTIC | pump | Pump Intake | Depth: | 2,5 | BELOW | WATER | | Comments |
| Sampling N | /lethod: | | -FLOW | | Tubing Type | : | DEDIC | ATED TE | FLOW | | |
| Time | Volume Purged (liters) | Cumulative Volume Purged (liters) | DTW (btc) | Purge Rate (L/min) | рН | Temp (°C) | Cond (µS/cm) | DO (ppm) | ORP (mV) | Turbidity (NTUs) | Clarity/Color Other Remarks |
| | | | | | +/-0.1 | +/-0.5° C | +/-5% | +/- 0.5 ppm | +/-20mV | +/-10% | < Stabilization Criteria |
| 1815 | 0.7 | 0.7 | 13,72 | 0,14 | 6,86 | 9.95 | 355 | 1.70 | 137.0 | 9,03 | STAN |
| 1820 | 0.7 | 1,4 | 14,07 | 1, | 6,33 | 9,83 | % 73 | 1.77 | 172,3 | 2,73 | * |
| 1825 | 0.7 | 2,1 | 1424 | ł, | 635 | 9,75 | 276 | 0.81 | 183,5 | 1,49 | <i>j</i> * |
| 1830 | 0.7 | 2,8 | 14.31 | 1, | 6.41 | 9.71 | 281 | 0.74 | 187,2 | 1.35 | 6-9 |
| | | | | 2 | | | · | | | | * |
| | | | er P | ję. | | | | | | | |
| | · | | - | | | | | | | | |
| | | | | | | | | • | | | |
| | g8 | Olas | it \/C | | Cl = Claudu | | alaudu AC | = almost clea | | i | |
| | | Clai | ity. VC – V | ery cloudy, | | IPLING DATA | | – amost dea | ir, C – Gear | | |
| Samp | ole ID: | MW-Z | IJS | Sampling | Flow Rate | 0,14 | | Analytical La | boratory: | E | 35 C |
| | e Time: | 183 | | | oth to Water: | 14.10 | 7 | Did Well Dev | | | No |
| | ners/Type | Preserv | | | is/Method | Field Fi | | | Size | MS/MSD | Duplicate ID |
| 2 x 1L | | | | 1 . | CP | yes | no | | | | |
| | | | Ø. | | | yes | no | | | | |
| | | | | | | yes | no | | | | |
| | | | V. V. | | | yes | no ® | 3 | | | |
| | | · | | | ***** | yes | no | | | | |
| | | 1 | * | | | yes | no | | | | |
| | | <u> </u> | | | С | OMMENTS | | | | | 7 P. |
| | | | | ** | | A | | | | | |
| | | | | | | 7 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1) | × | 4> | | | |
| | | 4 | , | 446 | | | | | | | |



Groundwater Monitoring Work Plan Former Taylor Lumber Site Sheridan, Oregon

Prepared for: Oregon Department of Environmental Quality

April 22, 2011 1843-00





Groundwater Monitoring Work Plan Former Taylor Lumber Site Sheridan, Oregon

Prepared for: Oregon Department of Environmental Quality

Stephence Boss

April 22, 2011 1843-00

Stephanie Bosze, R.G. Project Geologist, Ash Creek Associates

EXPIRES: DEC. 31, 2011

Herb Clough, P.E. Principal Engineer, Ash Creek Associates

Table of Contents

| 1.0 INTRODUCTION | 1 |
|---------------------------------------------|---|
| 1.1 Background | 1 |
| 1.2 Objective | 1 |
| 1.3 Scope of Work | 1 |
| 2.0 GROUNDWATER MONITORING ACTIVITIES | |
| 2.1 Preparatory Activities | 2 |
| 2.2 Documentation of Well Conditions | |
| 2.3 Groundwater Elevation Measurements | 3 |
| 2.4 Groundwater Sampling | 3 |
| 2.5 Handling of Investigation-Derived Waste | 4 |
| 3.0 ANALYTICAL PROGRAM | 4 |
| 4.0 QUALITY ASSURANCE AND QUALITY CONTROL | 4 |
| 5.0 ANNUAL REPORTING | 5 |
| 6.0 REFERENCES | 5 |

Table

1 Monitoring Plan

Figures

- 1 Site Location Map
- 2 Site Plan

Appendices

- A Health and Safety Plan
- B Sampling and Analysis Plan

1.0 Introduction

This Groundwater Monitoring Work Plan presents the scope of work for groundwater monitoring activities at the former Taylor Lumber and Treating (TLT) Superfund Site located at 22125 SW Rock Creek Road in Yamhill County, Sheridan, Oregon (Site; Figure 1). This Work Plan was prepared for the Oregon Department of Environmental Quality (DEQ) under Task 2 of Task Order No. 57-08-28. This Work Plan covers two annual monitoring events to be conducted in April 2011 and April 2012. The specific scope of work is the same for each event.

1.1 Background

The Site is a wood treating facility that was operated by TLT from 1946 until 2001, when TLT filed for bankruptcy. Pacific Wood Preserving of Oregon (PWPO) entered into a Prospective Purchaser Agreement with the U.S. Environmental Protection Agency (EPA) and purchased the wood treatment portion of the facility. PWPO began operations at the Site in 2002 and is currently treating wood using copper- and borate-based solutions.

A Record of Decision (ROD) for the Site was signed on September 30, 2005 (EPA, 2005). In accordance with the ROD, contaminated soils have been removed from the Site. However, contaminated soils and groundwater remain within the treatment plant area at the Site, enclosed by a soil-bentonite barrier wall. A low-permeability asphalt cap has been placed over the entire area enclosed by the barrier wall, which impedes the infiltration of stormwater into the groundwater located within the barrier wall. Four groundwater extraction wells have been installed within the barrier wall to stimulate an inward hydraulic gradient and prevent water from rising above the cap (EPA, 2010). The ROD identifies pentachlorophenol (PCP) as the contaminant of concern (COC) in Site groundwater (EPA, 2005).

1.2 Objective

The primary objective of the groundwater monitoring program is to confirm that PCP impacted groundwater is not migrating beyond the barrier wall to the Yamhill River to the south or across Rock Creek Road to residential wells.

1.3 Scope of Work

In March 2010, the EPA prepared a Long-Term Groundwater Monitoring and Reporting Plan (EPA Work Plan) for the Site (EPA, 2010). The plan outlined a groundwater monitoring program for the Site including field sampling procedures, quality assurance/quality control (QA/QC) evaluation, sampling handling, and documentation procedures. This Work Plan incorporates the major components of the EPA Work Plan.

The following scope of work, as excerpted from the EPA Work Plan, will accomplish the primary project objective as described in Section 1.2:

- Groundwater samples will be collected for PCP analysis from 19 monitoring wells located outside the barrier wall.
- 2) Groundwater samples will be collected for PCP analysis from residential wells RW-01 and RW-02.
- 3) Water quality parameters will be measured prior to sampling to determine water stability during purging and to qualify the representativeness of the samples.
- 4) Water levels will be measured in each of the above-referenced monitoring wells as well as in extraction wells PW-01 through PW-04, located within the barrier wall.
- 5) For health and safety purposes, organic vapors will be measured in the well headspace prior to monitoring and sampling activities.

These activities are discussed in further detail within this Work Plan. Table 1 lists the groundwater and residential wells that will be gauged and sampled as part of the Site monitoring program. The location of the monitoring, extraction, and residential wells included in the monitoring program are shown on Figure 2.

2.0 Groundwater Monitoring Activities

The groundwater monitoring program will include preparatory activities, collection of groundwater elevation measurements, and collection of groundwater samples for chemical analysis.

2.1 Preparatory Activities

Site Health and Safety Plan. A Site-specific health and safety plan (HASP) has been prepared for the proposed activities. Appendix A includes a copy of the HASP. The HASP was prepared in general accordance with the Occupational Safety and Health Act (OSHA) and the Oregon Administrative Rules (OAR). A copy of the HASP will be maintained on-site during the field activities.

Property Access. PWPO will be contacted a minimum of one week prior to each field event. Prior to entering the site, field staff will also check in at the PWPO main office. The main office is located at 22125 Rock Creek Road, with the primary entrance located off Highway 18B.

Residential Notifications. One monitoring well (MW-9S) and two residential water wells (RW-01 and RW-02) are located off-site, as shown on Figure 2. The owners of these properties will be notified a minimum of one week prior to sampling. Contact information for the residents is provided in the EPA Work Plan (EPA, 2010).

2.2 Documentation of Well Conditions

Prior to sampling, Site conditions will be recorded including temperature, precipitation, wind direction, and any other factors that could affect sample quality. The well monuments will be inspected for signs of damage, and will be noted accordingly in the field notes. The current well locks will be cut off with a bolt cutter and replaced with new locks that utilize a common key. The DEQ project manager and key project personnel will be provided with a copy of the well key.

Prior to sampling, the headspace around each well will be screened for organic vapors using a photoionization detector (PID). Headspace concentrations will be documented in the field notes and any volatiles will be allowed to dissipate before sampling.

2.3 Groundwater Elevation Measurements

Groundwater elevation measurements will be collected in accordance with the EPA Work Plan (EPA, 2010). Wells in which water levels will be measured are listed in Table 1. It is possible there will be a difference in air pressure between the air in the casing and barometric pressure at the time of collecting well measurements. Since such a differential pressure could affect water level results, the well lids and caps will be opened for at least five minutes before making measurements so that the air pressure has adequate time to equilibrate. Water level measurements will be measured with an electronic water level probe and recorded on the appropriate field data sheet with an accuracy of \pm 0.01 foot.

2.4 Groundwater Sampling

Groundwater samples will be collected from the wells listed in Table 1.

Well Purging. Groundwater will be purged before sampling using dedicated Teflon tubing and a peristaltic pump. Field parameters, including temperature, pH, dissolved oxygen, oxidation-reduction potential, specific conductivity, and turbidity will be collected during the purging process using a flow-through cell. Detailed groundwater sampling procedures are described in the sampling and analysis plan (SAP; Appendix B).

Well Sampling. Groundwater sampling will be conducted in accordance with Ash Creek's standard operating procedures (SOPs) which are included in the SAP (Appendix B). Where the SOPs differ from the EPA Work Plan, procedures are typically deferred to those outlined in the EPA Work Plan, and are denoted accordingly in the SAP.

Purging and Sampling of Residential Wells. The locations of the two off-site residential wells are shown on Figure 2. Well RW-01 is located to the west of the Site and will be accessed from the faucet at the pump house that is facing Highway 18. Well RW-02 is located three houses east of Rock Creek Road on

Highway 18. The well is located at the northwest corner of the house. The specific location of the RW-02 and type of sampling port present (i.e., borehole, tap, etc.) will be verified by the property owner.

Water taps will be opened and allowed to run for approximately 10 minutes to clear the system (including a pressure equalizing tank, if present) of residual water in the piping. Following the system purge, a sample will be collected from the tap for measurement of field parameters. The tap will be allowed to run for another 3 minutes before collecting another sample for the measurement of field parameters (pH, electrical conductivity, temperature). This procedure will be repeated until field parameters stabilized to within 10 percent of the previous measurements for three successive measurements. Following completion of "purging" procedures as described above, the groundwater sample will be collected directly from the tap. Sample containers will be provided by the laboratory ready for sample collection, including preservative.

Procedures for labeling and storing the samples are summarized in the SAP (Appendix B).

2.5 Handling of Investigation-Derived Waste

Investigation-derived waste (IDW) will consist of purge water and decontamination water. IDW will be temporarily placed in buckets or drums and will be transported to and disposed of in the drain located to the north of the stormwater treatment system (Figure 2). The Site operations manager will direct field staff to the location of the drain. At a minimum, buckets will be emptied into the drain prior to the end of each field day. Disposable items, such as gloves, paper towels, etc., will be placed in plastic bags after use and deposited in trash receptacles for disposal.

3.0 Analytical Program

Groundwater samples collected from the monitoring wells and residential water wells during both monitoring events will be analyzed for PCP by EPA Method 8270 SIM. Additional information on the analytical program, including sample handling procedures, required analytical reporting limits, preservation requirements, and sample hold times, are summarized in the SAP (Appendix B).

4.0 Quality Assurance and Quality Control

QA/QC procedures will be used throughout this project. The SAP in Appendix B includes the QA plan for this project. This plan includes sampling and custody procedures, QA sampling analyses (such as analysis of duplicates), detection limit goals, laboratory QC, and QA reporting. Groundwater sampling will be conducted in accordance with the QA/QC requirements outlined in the EPA Work Plan (EPA, 2010).

5.0 Annual Reporting

Following each annual monitoring event, a groundwater monitoring report will be prepared and submitted to the DEQ. The quarterly monitoring report will include the following components:

- Summary of field events;
- Summary of problems encountered or deviations from monitoring program;
- Summary table with validated analytical results;
- Summary table with water level measurements;
- Groundwater elevation contour maps; and
- Analytical laboratory testing program and documentation (including a QA review).

The 2011 annual monitoring report will initially be prepared as a draft for review by the DEQ. Upon receipt of DEQ's comments, Ash Creek will issue the report in final form. The 2012 report will incorporate DEQ's comments on the 2011 report, and will be submitted only in final form.

6.0 References

U.S. Environmental Protection Agency (EPA), 2005. *Final Record of Decision Taylor Lumber and Treating Superfund Site, Sheridan, Oregon.* September 30, 2005.

EPA, 2010. Long-term Groundwater Monitoring and Reporting Plan. Taylor Lumber and Treating Superfund Site. March, 2010.

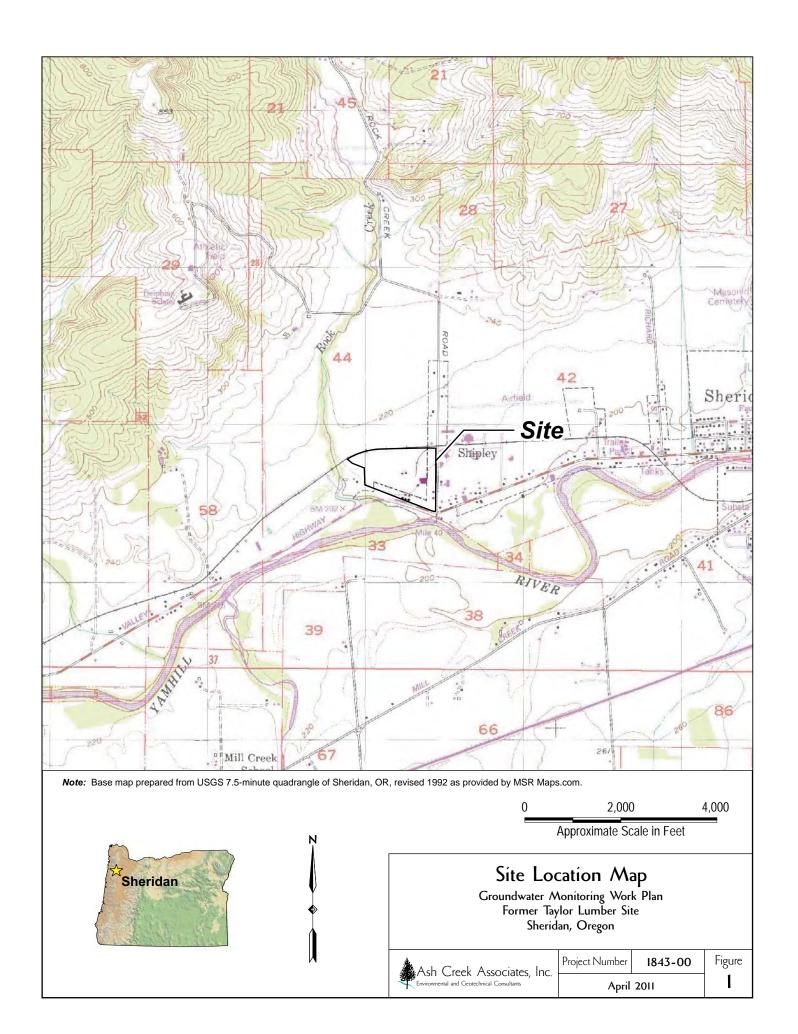
Table 1
Monitoring Program
Taylor Lumber and Treating

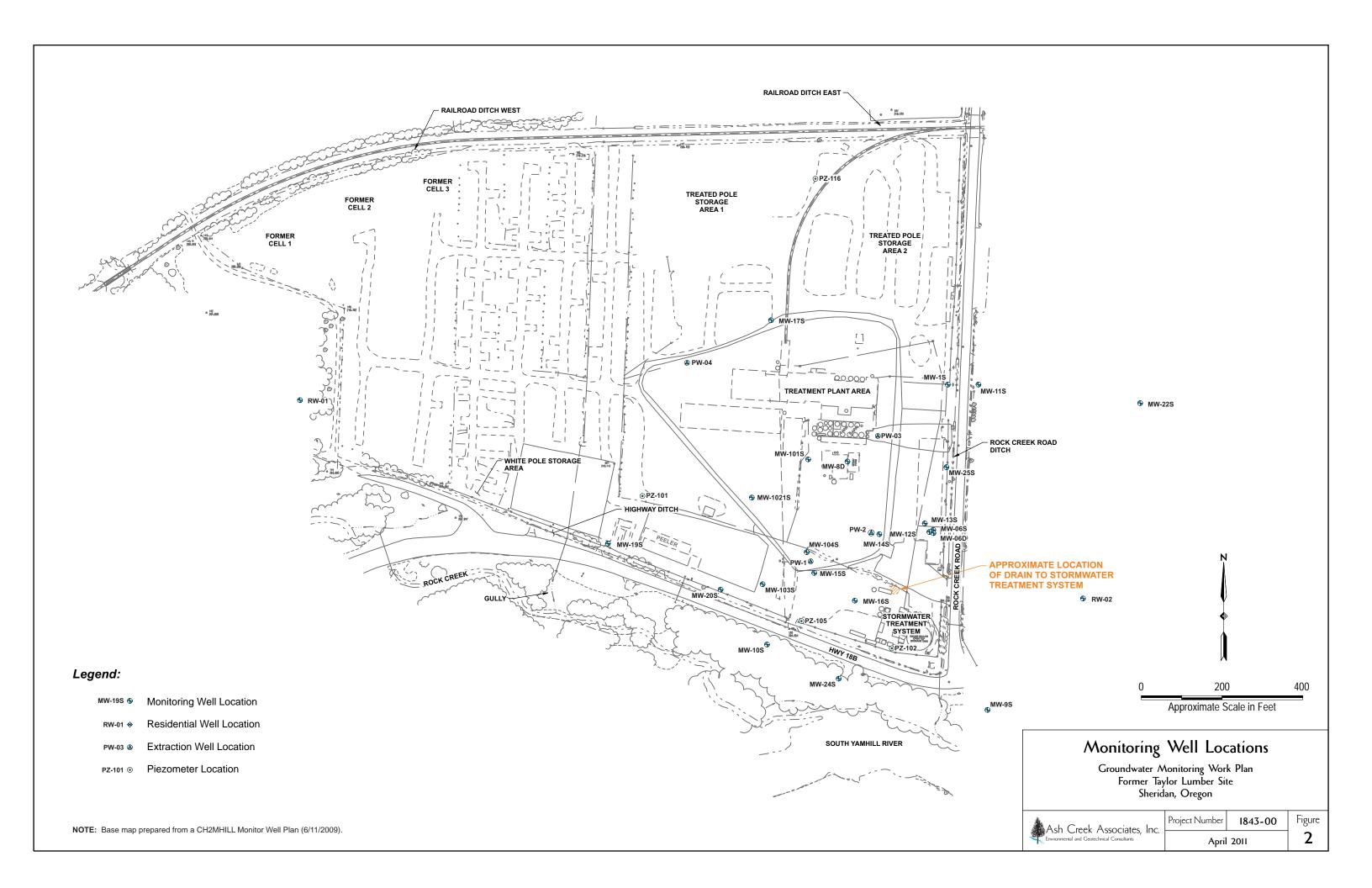
| | | 1 |
|------------------------------|------------------------|-----------------------------|
| Well I.D. | Wells to be Sampled | Water Level Measurments* |
| Outside Barrier Wall | | |
| MW-1S | Χ | Х |
| MW-6S | Χ | Χ |
| MW-6D | Χ | Χ |
| MW-9S | Χ | Χ |
| MW-12S | Χ | Χ |
| MW-13S | Χ | Χ |
| MW-15S | Χ | Χ |
| MW-16S | Χ | Χ |
| MW-19S | Χ | Χ |
| MW-20S | Χ | Χ |
| MW-25S | Χ | Χ |
| MW-103S | Χ | Χ |
| PZ-101 | Χ | Χ |
| PZ-102 | Χ | Χ |
| PZ-105 | Χ | Χ |
| South of Highway 18B | | |
| MW-9S | Χ | Х |
| MW-10S | Χ | Χ |
| MW-24S | Χ | Χ |
| East of Rock Creek Road | | |
| MW-11S | Χ | Χ |
| Residences** | | |
| RW-01 | Χ | |
| RW-02 | Χ | |
| Extraction Wells Inside Barr | rier Wall | |
| PW-1 | | Χ |
| PW-02 | | Χ |
| PW-03 | | Χ |
| PW-04 | | Χ |

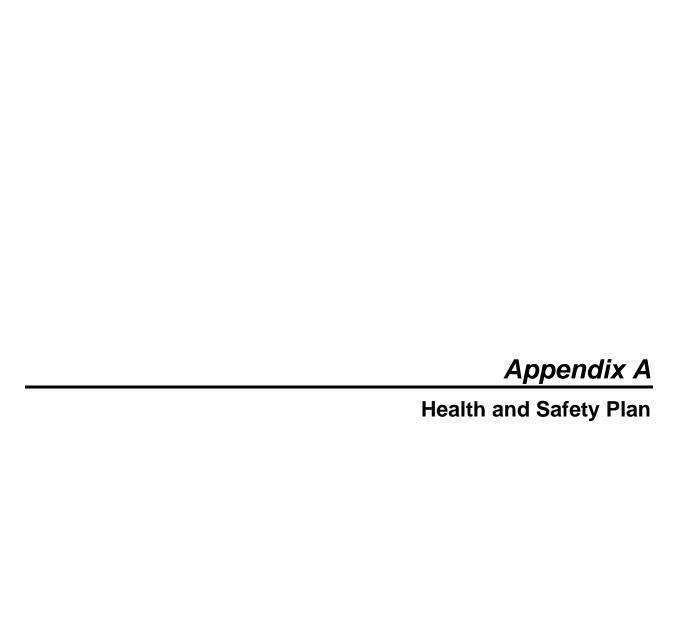
- 1. PCP = pentachlorophenol.
- 2. * = Indicates wells in which water level measurements will be collected.
- 3. ** = Residential addresses and contact information are as follows:

RW- 01: (b) (6) RW-02: (b) (6) (b) (6) MW-9S: (b) (6)

MW-11S: Northwest Gazebo - George Gabriel owner - 503-843-0024







Record of Health and Safety Communication

| PROJECT NAME: DEQ - Form | mer Taylor Lumber Project | | |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------|
| SITE CONTAMINANTS: Pent | achlorophenol | | |
| PPE REQUIREMENTS (check Safety Glasses Safety Boots Hard Hat Gloves: | all that apply): | ✓ Clothing : Safety Vest Respiratory Protection : Other : | |
| and the General Health and Sa indicate that they have read the | reviewed a copy of the Summary Informatety Plan (and attachments). By signing plan, including all referenced informate which are detailed for this project. | ing below, these personnel | |
| PRINTED NAME | SIGNATURE | COMPANY | DATE |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

1.0 Introduction

This Health and Safety Plan (HASP) includes both Site-specific information (including Site-specific activities, health hazards, route to hospital, and toxicity information) and the general Ash Creek Associates (Ash Creek) Health and Safety Plan (General HASP).

1.1 Emergency Contact Summary

| SITE LOCATION | 22125 SW Rock Creek Road, Sheridan, OR |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEAREST HOSPITAL | West Valley Hospital 525 Southeast Washington Street Dallas, OR 97338-2834 (See HASP-1) Telephone(503) 842-4444 |
| EMERGENCY RESPONDERS | Police Department 9-1-1 Fire Department 9-1-1 Ambulance 9-1-1 |
| EMERGENCY CONTACTS | Ash Creek Associates (503) 924-4704 National Response Center (800) 424-8802 Oregon Accident Response System (800) 452-0311 Environmental Response Team (503) 283-1150 Poison Control Center (800) 222-1222 Chemtrec (800) 424-9300 |

In the event of an emergency, call for help as soon as possible. Give the following information:

- WHERE the emergency is (use cross-streets or landmarks)
- PHONE NUMBER you are calling from
- WHAT HAPPENED (type of injury)
- HOW MANY persons need help
- WHAT is being done for the victim(s)
- YOU HANG UP LAST (let the person you called hang up first)

2.0 Corporate Health and Safety Plan

The Ash Creek General HASP, together with the included Site-specific information, cover each of the 11 required plan elements as specified in OSHA 1910.120, and meets all applicable regulatory requirements. The reader is advised to thoroughly review the entire plan.

3.0 Site-Specific Health and Safety Plan

3.1 Site Location and Description

LOCATION: 22125 SW Rock Creek Road, Sheridan, OR

LAND USE OF AREA SURROUNDING FACILITY: Industrial

3.2 Site Activity Summary

SITE ACTIVITIES: Groundwater sampling.

PROPOSED DATE OF ACTIVITY: April 2011 and April 2012.

POTENTIAL SITE CONTAMINANTS: Pentachlorophenol.

POTENTIAL ROUTES OF ENTRY: Potential routes of entry include skin contact with soil and groundwater, incidental ingestion of soil and groundwater, and inhalation of dust and volatiles.

PROTECTIVE MEASURES: Engineering controls, safety glasses, safety boots, hard hat, gloves, protective clothing, and respirators (as necessary).

MONITORING EQUIPMENT: Photoionization detector (PID) with 10.2 eV Lamp; olfactory indications.

3.3 Chain of Command

The chain of command for health and safety in this project involves the following individuals:

CORPORATE HEALTH AND SAFETY MANAGER: Mike Stevens, P.E.

PROJECT MANAGER: Stephanie L. Bosze, R.G..

PROJECT HEALTH AND SAFETY OFFICER: Stephanie L. Bosze, R.G.

FIELD HEALTH AND SAFETY MANAGER: Ian Maguire

3.4 Hazard Analysis and Applicable Safety Procedures

The following work tasks will be accomplished:

1) Groundwater sampling

The associated hazards for the above activities that may be anticipated during this project are discussed in detail below.

Appendix A – Site-Specific Health and Safety Plan

3.4.1 Groundwater Monitoring.

Any sampling will occur under the assumption the media is contaminated and appropriate personnel

protection will be required.

3.4.2 Air Monitoring and Action Levels

PID Monitoring. Air monitoring will be conducted with a PID with 10.2 eV lamp, or equivalent, to measure

organic vapor concentration during Site work activities (the 10.2 eV lamp is specified to allow detection of

halogenated compounds). Background PID measurements will be taken prior to the start of groundwater monitoring to quantify levels associated with the ambient air space in the vicinity of the Site. Subsequent

PID measurements will be taken when well caps are initially removed for sampling. If PID measurements

are elevated relative to the previously measured background levels, then sampling will be deferred to allow

vapors to dissipate. PID measurements shall be consistent with background prior to sampling activities.

Olfactory. If olfactory senses detect any unfamiliar odor, work will stop until an assessment can be made to

determine whether the need exists to upgrade protective measures.

3.5 Chemicals of Concern

Based on Site information gathered to date, the following chemical may be present at the Site:

Pentachlorophenol (PCP)

3.5.1 Toxicity Information

Pertinent toxicological properties of the chemicals of concern are discussed below. This information

generally covers potential toxic effects which may occur from relatively significant acute and/or chronic

exposures, and is not meant to indicate that such effects will occur from the planned Site activities. In general, the chemicals which may be encountered at the Site are not expected to be present at

concentrations that could produce significant exposures. The types of planned work activities should also

limit potential exposures at the Site. Furthermore, appropriate protective and monitoring equipment will be

used, as discussed below, to further minimize any exposures that might occur.

Standards for occupational exposures to these chemicals are included where available. Site exposures are

generally expected to be of short duration and well below the level of any of these exposure limits. These

standards are presented below.

PEL Permissible Exposure Limit (Occupational Safety and Health Act [OSHA])

REL Recommended Exposure Limit (NIOSH)

Appendix A - Site-Specific Health and Safety Plan

IDLH Immediately Dangerous to Life and Health (NIOSH)

TWA Time-Weighted Average (exposure limit for any eight-hour work shift of a 40-hour work week)

STEL Short-Term Exposure Limit (expressed as a 15-minute, time-weighted average, and not to be exceeded at any time during a work day)

C Ceiling Exposure Limit (not to be exceeded at any time during a work day)

The table below lists the exposure limits recommended by OSHA and NIOSH for each of the listed compounds. Respiratory protection will be required if measured concentrations in air exceed the minimum of these exposure limits.

Recommended Exposure Limits

| Compound | OSHA PEL | NIOSH REL | IDLH | TWA |
|-------------------|----------|-----------|-------|-------|
| | [ppm] | [ppm] | [ppm] | [ppm] |
| Pentachlorophenol | 0.05 | 0.05 | 0.25 | 0.05 |

Note: ppm = Parts per million.

Pentachlorophenol. Pentachlorophenol is a synthetic substance, made from other chemicals, and does not occur naturally in the environment. It is made by only one company in the United States. At one time, it was one of the most widely used biocides in the United States. Since 1984, the purchase and use of pentachlorophenol has been restricted to certified applicators. It is no longer available to the general public. Application of pentachlorophenol in the home as an herbicide and pesticide accounted for only 3% of its consumption in the 1970s. Before use restrictions, pentachlorophenol was widely used as a wood preservative. It is now used industrially as a wood preservative for power line poles, cross arms, fence posts, and the like. Pure pentachlorophenol exists as colorless crystals. It has a very sharp characteristic phenolic smell when hot but very little odor at room temperature. Most people can begin to smell pentachlorophenol in water at less than 12 parts pentachlorophenol per million parts of water (ppm). Impure pentachlorophenol (the form usually found at hazardous waste sites) is dark gray to brown and exists as dust, beads, or flakes. Pentachlorophenol can be found in two forms: pentachlorophenol itself or as the sodium salt of pentachlorophenol. The sodium salt dissolves easily in water, but pentachlorophenol does not. These two forms have some different physical properties, but are expected to have similar toxic effects. Humans are generally exposed to technical-grade pentachlorophenol, which usually contains such toxic impurities as polychlorinated dibenzo- p-dioxins and dibenzofurans.

The physical and chemical properties of the compound suggest that not much will evaporate into the atmosphere and that most of it will move with water and generally stick to soil particles. Movement of pentachlorophenol in soils depends on the soil's acidity. The compound can be present in fish or other species used for food, as demonstrated by the ongoing food monitoring program of the Food and Drug

Appendix A - Site-Specific Health and Safety Plan

Administration (FDA). In air, soil, and surface water, pentachlorophenol lasts for hours to days. The compound is broken down in soil and surface water by microorganisms, and in air and surface water by sunlight, to other compounds, some of which may be harmful to humans.

Pentachlorophenol easily enters your body through your lungs when you breathe it, through your digestive tract after you eat contaminated food or water, or through your skin. The most significant ways are through breathing and skin contact. After a short exposure period, pentachlorophenol quickly leaves your body (studies in humans show that half the amount taken in is usually gone within 33 hours). It does not seem to build up in the body very much. Most of the pentachlorophenol taken into your body does not break down, but instead leaves in your urine. Much smaller amounts leave in your feces. Only a small amount escapes through your exhaled air. Some of the pentachlorophenol taken into your body is joined with other natural chemicals that make the pentachlorophenol less harmful. The combined product can then leave your body more easily.

Some, but not all, of the harmful effects associated with exposure to pentachlorophenol are due to impurities present in commercial pentachlorophenol. Short exposures to large amounts of pentachlorophenol in the workplace or through the misuse of products that contain it can cause harmful effects on the liver, kidneys, blood, lungs, nervous system, immune system, and gastrointestinal tract. Contact with pentachlorophenol (particularly in the form of a hot vapor) can irritate the skin, eyes, and mouth. If large enough amounts enter the body, heat is produced by the cells in the body, causing an increase in body temperature. The body temperature can increase to dangerous levels, causing injury to various organs and tissues and even death. This effect is the result of exposure to pentachlorophenol itself and not the impurities. The lengths of exposure and the levels that cause harmful effects have not been well defined. Long-term exposure to low levels such as those that occur in the workplace can cause damage to the liver, kidneys, blood, and nervous system. Studies in animals also suggest that the endocrine system and immune system can also be damaged following long-term exposure to low levels of pentachlorophenol. All of these effects get worse as the level of exposure increases. Decreases in the number of newborn animals, harmful effects on reproductive organs of the mothers, decreases in the number of successful pregnancies, and increases in the length of pregnancy were observed in animals exposed to pentachlorophenol while they were pregnant. Harmful effects on reproductive organs of the females were also seen in animals exposed to pentachlorophenol while they were not pregnant. We do not know if pentachlorophenol produces all of the same effects in humans that it causes in animals.

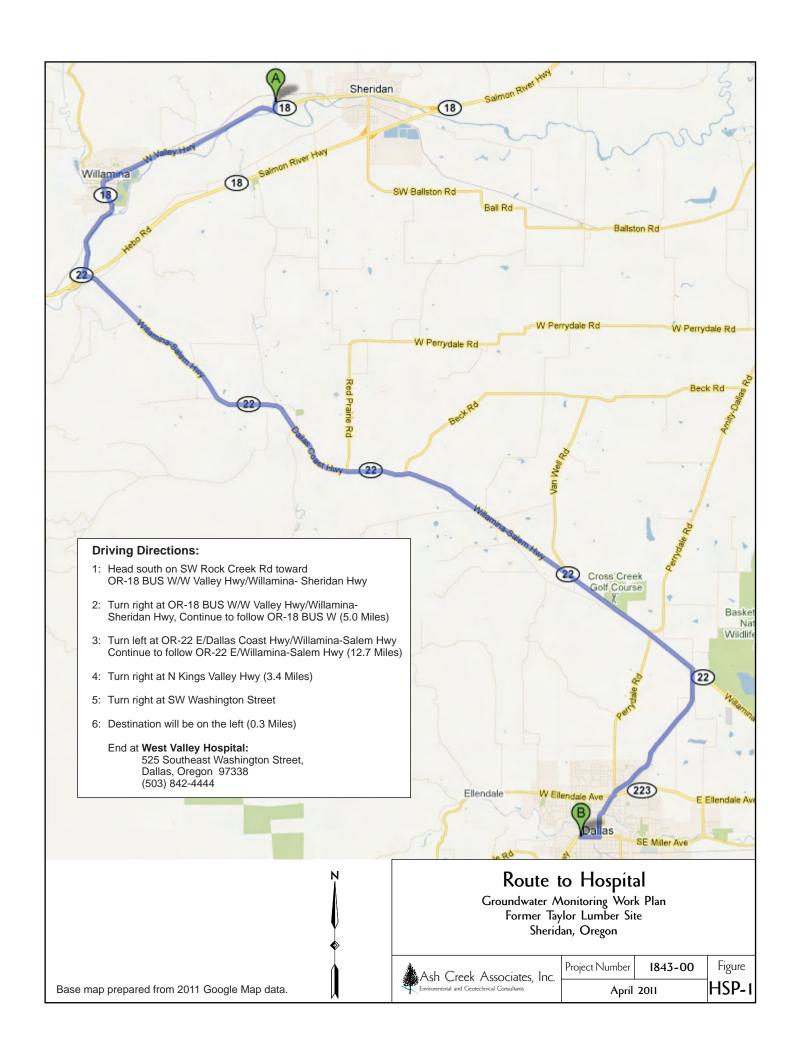
An increased risk of cancer has been shown in some laboratory animals given large amounts of pentachlorophenol orally for a long time. There is weak evidence that pentachlorophenol causes cancer in humans. The International Agency for Research on Cancer (IARC) has determined that pentachlorophenol is possibly carcinogenic to humans, and the EPA has classified pentachlorophenol as a probable human carcinogen.

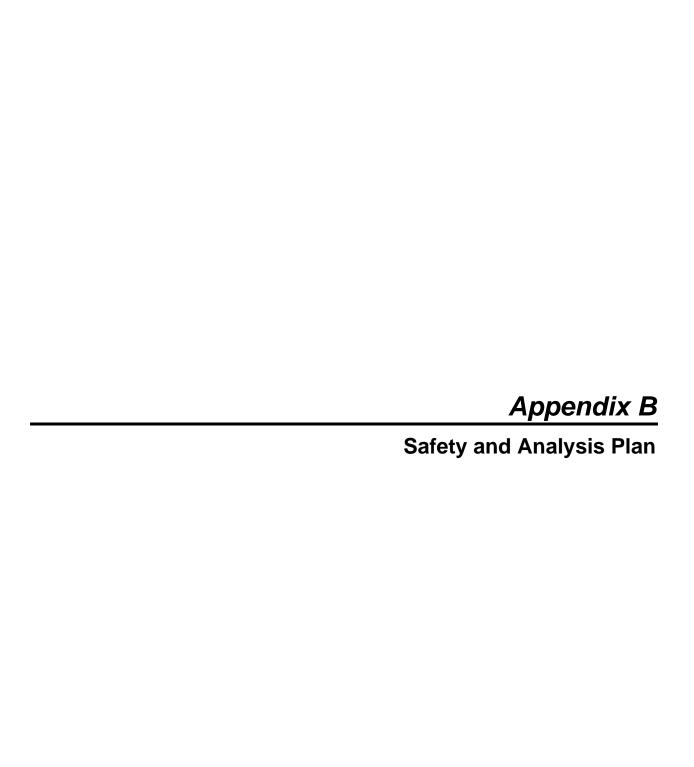
Appendix A – Site-Specific Health and Safety Plan

The federal government has set regulatory standards and guidelines to protect workers from the possible health effects of pentachlorophenol in air. OSHA has set a legally enforceable limit of 0.5 milligrams per cubic meter (mg/m3) in workroom air to protect workers during an 8-hour shift over a 40-hour work week.

Pentachlorophenol and its products can be measured in the blood, urine, and tissues of exposed persons. Because urine and blood samples are easily collected, testing these fluids is the best way to find out whether a person has been exposed. Neither test is usually available at a doctor's office because both require the use of special equipment. Although these tests can prove that a person has been exposed, they cannot be used to tell how severe any health effects might be. Because pentachlorophenol leaves the body fairly quickly, these tests are best for finding exposures that occurred within the last several days. Exposure at hazardous waste sites usually includes exposure to other organic compounds, such as hexachlorobenzene, that could break down into pentachlorophenol. On the other hand, measurement of blood and urine levels for pentachlorophenol and its products in groups of exposed people and non-exposed people is a good way to tell whether exposure to pentachlorophenol or members of the same chemical family occurred.

The federal government has also set regulatory standards and guidelines to protect the public from the possible health effects of pentachlorophenol in drinking water. EPA decided that the amount in the drinking water should not be more than 0.022 milligram per liter (mg/L) and that any release of more than 10 pounds to the environment should be reported. For short-term exposures, EPA decided that drinking water levels should not be more than 1.0 mg/L for 1 day or 0.3 mg/L for 10 days. EPA also estimates that for an average-weight adult, exposure to 0.03 mg/kg/day will probably not cause any non-cancer health effects. EPA is now working to measure the levels of pentachlorophenol found at abandoned waste sites.





1.0 Introduction

This appendix presents the field and sampling procedures and the analytical testing program that will be used to complete the field and analytical work for this project. Quality assurance and quality control (QA/QC) procedures are also discussed in this appendix.

2.0 Field and Sampling Procedures

The scope of work for the Site includes two annual groundwater monitoring events. The field and sampling procedures include the following:

- Preparatory activities;
- Well headspace measurements with a photoionization detector (PID);
- Groundwater elevation measurements;
- Collection of groundwater samples;
- Sample management (i.e., containers, storage, and shipment);
- Decontamination procedures; and
- Handling of investigation-derived waste (IDW).

2.1 Preparatory Activities

Site Health and Safety Plan. A Site-specific health and safety plan (HASP) has been prepared for the proposed activities. Appendix A of the Work Plan includes a copy of the HASP. The HASP was prepared in general accordance with the Occupational Safety and Health Act (OSHA) and the Oregon Administrative Rules (OAR). A copy of the HASP will be maintained on site during the field activities.

Property Access. PWPO will be contacted a minimum of one week prior to each field event. Prior to entering the site, field staff will also check in at the PWPO main office. The main office is located at 22125 Rock Creek Road, with the primary entrance located off Highway 18B.

Residential Notifications. One monitoring well (MW-9S) and two residential water wells (RW-01 and RW-02) are located off site as shown on Figure 2. The owners of these properties will be notified a minimum of one week prior to sampling. Contact information for the residents is provided in the EPA Work Plan (EPA, 2010).

Appendix B - Sampling and Analysis Plan

2.2 PID Headspace Measurements

Prior to sampling, the headspace around each well will be screened for organic vapors using a photoionization detector (PID). Headspace concentrations will be documented in the field notes and any volatiles will be allowed to dissipate before sampling.

2.3 Groundwater Elevation Measurements

Water level measurements will be collected in general accordance with Ash Creek's Standard Operating Procedure (SOP) 2.16 for water level measurement procedures, provided in this appendix. The referenced SOP is in agreement with water level measurement procedures outlined in the EPA Work Plan (EPA, 2010). Water level measurements will be collected from site wells at the beginning of the monitoring event. Well covers and well caps will be opened and the water level will be allowed to equilibrate under atmospheric conditions for at least five minutes before water level measurements are taken. Water level measurements will be recorded in the field notes.

2.4 Collection of Groundwater Samples

Ash Creek will collect groundwater samples from site monitoring wells and off-site water wells annually in accordance with low-flow sampling techniques described in SOP 2.5, included in this appendix. The referenced SOP is in agreement with groundwater sampling procedures outlined in the EPA Work Plan (EPA, 2010). Groundwater samples will be collected using dedicated tubing and a peristaltic pump. A minimum of three casing volumes will be purged prior to sampling. During purging, field parameters will be collected using a flow-through-cell after each purge volume. Purging will be considered complete when water quality parameters including pH, electrical conductivity, and temperature stabilize within 10 percent of the previous measurement and turbidity readings are less than 5 to 15 nephelometric turbidity units (NTU). Sample containers will be provided by the laboratory ready for sample collection.

When sampling residential wells with water taps, the taps will be opened and allowed to run for approximately 10 minutes to clear the system (including a pressure equalizing tank, if present) of residual water in the piping. Following the system purge, a sample will be collected from the tap for measurement of field parameters. The tap will be allowed to run for another three minutes before collecting another sample for the measurement of field parameters (pH, electrical conductivity, temperature). This procedure will be repeated until field parameters stabilized to within 10 percent of the previous measurements for three successive measurements. Following completion of "purging" procedures as described above, the groundwater sample will be collected directly from the tap. Sample containers will be provided by the laboratory ready for sample collection.

Appendix B - Sampling and Analysis Plan

2.5 Sample Management

Containers. Clean sample containers will be provided by the analytical laboratory ready for sample

collection (the container requirements are listed in Table B-1).

Labeling Requirements. A sample label will be affixed to each sample container before sample collection.

All containers will be marked with the project name, sample I.D. (unique I.D. for each sample location), date

and time stamp (military time) of collection, sampler's initials, and the type of analysis.

Sample Storage and Shipment. Soil samples will be stored in a cooler chilled with ice or blue ice to

4 degrees Celsius (°C). The cooler lid will be sealed with chain-of-custody seals. If necessary, the samples

will be sent via overnight courier to the analytical laboratory for chemical analysis. Otherwise, Ash Creek will transport the containers to the laboratory. Chain of custody will be maintained and documented at

all times.

2.6 Decontamination Procedures

Personnel Decontamination. Personnel decontamination procedures depend on the level of protection

specified for a given activity. The HASP (Appendix A) identifies the appropriate level of protection for the type of work and expected field conditions associated with this project. In general, clothing and other

protective equipment can be removed from the investigation area. Field personnel should thoroughly wash

their hands and faces at the end of each day and before taking any work breaks.

Sampling Equipment Decontamination. To prevent cross-contamination between sampling events,

clean, dedicated sampling equipment (e.g., groundwater sampling tubing) will be used for each sampling

event and will be discarded after use. Cleaning of non-disposable items (i.e., field meter and water level probe) will consist of washing in a detergent (Alconox®) solution, rinsing with tap water, followed by a

de-ionized (DI) water rinse. Decontamination water will be collected and handled in accordance with

Section 2.9.

2.7 Handling of Investigation-Derived Waste

IDW will consist of purge water and decontamination water. IDW will be temporarily placed in five-gallon

buckets and covered with a lid. Throughout the sampling event, the buckets will be emptied into the facility

drain located at the southeast corner of the site for treatment at the on-site stormwater treatment system

(Figure 2 of Work Plan). At a minimum, buckets will be emptied into the drain by the end of each field day.

Disposable items, such as sample tubing, gloves, protective overalls (e.g., Tyvek®), paper towels, etc., will

be placed in plastic bags after use and deposited in trash receptacles for disposal.

3.0 Analytical Testing Program

Analytical laboratory QA/QC procedures are discussed in Section 5 of this appendix.

Table B-2 lists the proposed analytical methods, detection limit goals, and lists the anticipated number of groundwater samples. Samples will be collected and handled using methods described in Section 2 of this appendix. Specific container and storage requirements for samples will be discussed with the analytical laboratory prior to sample collection and will be in accordance with the container requirements presented in Table B-2.

The contaminant of concern (COC) for this project is pentachlorophenol; groundwater samples will be analyzed for pentachlorophenol by EPA Method 8270 SIM.

4.0 Field Quality Assurance Program

Field Chain-of-Custody. A chain-of-custody form will used to record possession of a sample and to document analyses requested. Each time the sample bottles or samples are transferred between individuals, both the sender and receiver sign and date the chain-of-custody form. When a sample shipment is transported to the laboratory, a copy of the chain-of-custody form is included in the transport container (e.g., ice chest).

Field Duplicate Samples. Two field duplicate groundwater samples will be collected during each annual sampling event. Field duplicates will consist of two samples collected sequentially from one sample location to assess data variability. The field duplicates will be analyzed by the same analytical methods used for primary samples. Relative percent differences (RPDs) for field duplicates will be calculated to assess the data precision and accuracy and potential variability caused by sample handling.

Trip Blank. Trip blanks will not be necessary for this investigation as samples will not be analyzed for volatile constituents.

Field Blanks and Equipment Rinse Blanks. Field blanks and equipment rinse blanks are not necessary because the sample tubing is dedicated to each well.

Quality Assurance and Quality Control

Laboratory QA/QC. The laboratory maintains an internal quality assurance program as documented in its laboratory quality assurance manual. The laboratory uses a combination of data quality indicators, including laboratory-specific detection limits, instrument calibration, calibration verification, blanks, surrogate recoveries, duplicates, matrix spike (MS) recoveries, matrix spike duplicate (MSD) recoveries, blank spike recoveries, and blank spike duplicate recoveries, to evaluate the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of

Appendix B - Sampling and Analysis Plan

the test methods. QA/QC requirements are also detailed in the EPA Work Plan (EPA, 2010). Parameters for determining sensitivity, accuracy, and precision for pentachlorophenol are provided in the EPA Work Plan (Table 4, EPA, 2010).

Field QA/QC. Field duplicates and MS/MSD samples will be submitted to the laboratory as part of the field QA/QC program. The sample, sample duplicate, and the MS/MSD samples will be taken from the same sample location, if possible. A summary of QC samples are provided in Table B-3.

Instrument Calibration. Field instruments, including the water level probe and PID, will be calibrated daily prior to use. PID calibration procedures are summarized in SOP 2.1, provided in this appendix. Instruments will otherwise be calibrated in accordance with the manufacturer's specifications. Additional instructions for field equipment inspection, maintenance, and decontamination are provided in Section 3.0 of the EPA Work Plan (EPA, 2010).

6.0 Documentation

During groundwater monitoring activities at the site, field activities will be documented in the field notebook or on field data sheets. The following information will be documented in the field notebook:

- Daily time of arrival and departure from site
- Project personnel on site
- Equipment calibration records
- Health and safety monitoring records
- Summary of equipment present and equipment used
- Documentation of site visitors, their associations, and purpose of visit

The following information will be recorded on the field data sheets:

- Instrument calibration data
- Water levels
- Purge volumes
- Field measurements
- Sampling information
- IDW volumes
- Shipping information

Table B-1 - Analytical Methods - Sample Container and Preservation Requirements Former Taylor Lumber Project, DEQ Task Order No. 57-08-28 Sheridan, Oregon

| Groundwater Analysis | Method | Container | Preservative | Storage Temperature | Holding Time |
|----------------------|--------------|-----------------------------------|--------------|------------------------|--------------|
| Pentachlorophenol | EPA 8270 SIM | (2) 1-L Amber Glass per Sample | N/A | 4°C | 7 days |

Notes:

- 1. EPA = U.S. Environmental Protection Agency.
- 2. °C = Degrees Celsius.
- 3. L = Liter.
- 4. N/A = not applicable.
- 5. SIM = Low level analysis.

Table B-2 - Analytical Methods, Anticipated Sample Number, and Reporting Limit Goals Former Taylor Lumber Project, DEQ Task Order No. 57-08-28 Sheridan, Oregon

| Analyte | Analytical Method | Anticipated Number of Samples (per event) | Reporting Limit Goal (µg/L) |
|--------------------|-------------------|-------------------------------------------------|--------------------------------|
| Pentalchlorophenol | EPA 8270 SIM* | 21 | 1 |

Notes:

- 1. μ g/L = Micrograms per liter.
- 2. EPA = U.S. Environmental Protection Agency.
- 3. Chain-of-Custody should denote analysis as "SV8270 Acid(PCP Low Level Only)"

Table B-3 - Summary of Quality Control Samples Former Taylor Lumber Project, DEQ Task Order No. 57-08-28 Sheridan, Oregon

| Parameter | Method | Field Duplicates | MS/MSD | Field Blanks | Equipment Blanks | Trip Blanks |
|---------------------|--------------|------------------|--------|--------------|---------------------|-------------|
| Pentachlorophenol * | EPA 8270 SIM | 2 | 1/1 | 0 | 0 | 0 |

Notes:

- 1. EPA = Environmental Protection Agency
- 2. MS/MSD = Matrix Spike/Matrix Spike Duplicate.
- 3. * = Where possible, a sample, sample duplicate, and MS/MSD sample should be taken from the same location.
- 4. For MS/MSD samples, one 1-L Amber bottle is required. If sufficient volume is available, collect 2 1-L amber bottles to ensure against potential breakage.
- 5. For field duplicates, sample volume collected should be doubled (4-1 L Ambers per duplicate well).



Appendix C – Laboratory Analytical Report and Data Quality Review

This appendix documents the results of a quality assurance/quality control (QA/QC) review of the analytical data for samples collected in April 2011 for the Oregon Department of Environmental Quality (DEQ) Taylor Lumber and Treating Superfund site. Groundwater samples were analyzed by ESC Lab Sciences (ESC) of Mt Juliet, Tennessee. Copies of the analytical laboratory reports are included in this appendix.

The QA review included examination and validation of the laboratory summary reports, including:

- Analytical methods;
- Detection limits;
- Sample holding times;
- Surrogates, spikes, and blanks; and
- Sample replicates and other field quality assurance samples.

The QA review did not include a review of raw data.

1.0 Analytical Methods

Groundwater samples were analyzed for pentachlorophenol (PCP) by EPA Method 8270 (Low Level, PCP only).

2.0 Quality Assurance Review

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Surrogate r ecoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries; and
- Laboratory duplicate and relative percent difference (RPD).

Based on this review, data are considered to be of acceptable quality and are suitable for their intended purposes.

Holding Times. Samples were analyzed within the holding times specified.

Appendix C – Laboratory Analytical Report and Data Quality Review

Method Blanks. A method – or laboratory – blank is a sample prepared in the laboratory along with the actual samples and analyzed for the same parameters at the same time. It is used to assess if detected contaminants may be the result of contamination of the samples in the laboratory. PCP was not detected in the laboratory method blanks.

Surrogate Recovery. Surrogates are organic compounds that are similar in chemical composition to the analytes of interest and spiked into environmental and batch QC samples prior to sample preparation and analysis. Surrogate recoveries for environmental samples are used to evaluate matrix interference on a sample-specific basis. For the analysis, three surrogates were analyzed. Surrogate recoveries for two out of three analytes were below acceptance criteria in several samples; therefore, the lab flagged the data with a J2 qualifier. Per the method, the surrogates were reanalyzed and recoveries were again below the acceptance criteria, indicating a sample matrix effect. For sample MW-13S, there was not adequate sample volume to reanalyze the sample and therefore the surrogates were flagged with an L2 qualifier.

The laboratory stated that of the three surrogates analyzed, the compound most representative of PCP (the lightest surrogate) met acceptance criteria in the initial surrogate analysis and the re-analysis, indicating that PCP recovery was likely within acceptable criteria. Furthermore, the other analysis spike samples (LCS and MS) were within acceptance criteria, verifying the accuracy of the analysis.

The surrogate recovery limits for sample MW-25S could not be evaluated as the surrogates were diluted out as part of the sample dilution process. As stated above, the LCS and MS recoveries associated with this batch indicate that the accuracy of the analysis is acceptable.

Laboratory Control Sample and Laboratory Control Sample Duplicate. LCS/LCSD are analyzed by the laboratory to assess the accuracy of the analytical equipment. An LCS/LCSD sample is prepared from an analyte-free matrix that is then spiked with known levels of the constituents of interest (i.e., a standard). The concentrations are measured and the results are compared to the known spiked levels. This comparison is expressed as percent recovery. The RPD between the LCS and LCSD is calculated. The percent recovery for LCS and LCSD samples were within acceptable limits. The RPD between the LCS and LCSD were within the acceptance criteria.

Matrix Spike and Matrix Spike Duplicate Analyses. MS/MSD analysis involves two aliquots of an environmental sample that are spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. These analyses are used to assess the potential for matrix interference with recovery or detection of the constituents of interest and the accuracy of the determination. The RPD between the MS and MSD is calculated. An MS/MSD sample was collected from monitoring well MW-06S in accordance with the work plan, which indicated that the sample, sample duplicate, and MS/MSD samples all be collected from the same sample location. Percent recoveries of the MS/MSD analyses were within control limits for PCP. The RPD between the MS and MSD samples were within the acceptance criteria.

Appendix C – Laboratory Analytical Report and Data Quality Review

Field Duplicate. A field duplicate is a second field sample collected from a selected sample location. Field duplicate samples serve as a check on laboratory quality as well as potential variability of the sample matrix. The field duplicate is analyzed and compared to the first sample to assess the precision of the analytical method. This comparison can be expressed by the RPD between the original and duplicate samples. The field duplicate samples were collected from well MW-6S and MW-16S. RPDs were below 10 percent and therefore within quality control limits.

Reporting Limits. Reporting limits, reported as reported detection limit (RDL) on the laboratory report, were not elevated in the project groundwater samples. PCP was detected in sample MW-11S at a concentration below the lowest calibration point for the analysis. The value is considered an estimate and is flagged in Table 1 with a "J" qualifier.

Conclusion. In conclusion, the QA objectives have been met, and the data are of sufficient quality for use in this project.



OREGON

Environmental Laboratory Accreditation Program



NELAP Recognized

Environmental Science Corporation TN200002

12065 Lebanon Road Mt. Juliet,TN 37122

IS GRANTED APPROVAL BY ORELAP UNDER THE 2003 NELAC STANDARDS, TO PERFORM ANALYSES ON ENVIRONMENTAL SAMPLES IN MATRICES AS LISTED BELOW:

Non Potable Air Dripking Water Water

Solids and / Chem. Waste

Tissue

Chemistry

Chemistry

Chemistry

Chemistry

Toxicity Testing

AND AS RECORDED IN THE LIST OF APPROVED ANALYTES METHODS, ANALYTIC TECHNIQUES, AND PIELDS OF TESTING ISSUED CONCURRENTLY WITH THIS CERTIFICATE AND REVISED AS NECESSARY.

ACCREDITED STATUS DEPENDS ON SUCCESSFUL ONGOING PARTICIPATION IN THE PROGRAM AND CONTINUED COMPLIANCE WITH THE STANDARDS.

CUSTOMERS ARE URGED TO VERIFY THE LABORATORY'S CURRENT ACCREDITATION STATUS

Irene E. Ronning Ph.D.

Oregon State Public Health Laboratory

ORELAP Administrator

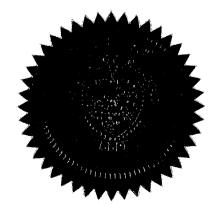
3150 NW. 229th Ave, Suite 100

Hillsboro, OR 97124

ISSUE DATE: 01/16/2011

EXPIRATION DATE: 01/15/2012

Certificate No: TN200002 - 008





Oregon

Environmental Laboratory Accreditation Program

Department of Agriculture, Laboratory Division Department of Environmental Quality, Laboratory Division Department of Human Services, Public Health Laboratory



NELAP Recognized

ORELAP Fields of Accreditation

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Reference Code Description | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Reference Gode Description | |
| ### Analyte Code | |
| ## Analyte Code Analyte Analyte | |
| 3780 | |
| 3780 | |
| ## 4926 Methan 1843 Nitroge 3895 Oxyge EPA TO-15 10248803 Vocs collected in Canisters by GC/MS Analyte Code Analyte 5160 1,1,2-Trichloroethane 5110 1,1,2-Tetrachloroethane 5195 1,1,2-Trichloroethane 5165 1,1,2-Tric | |
| 1843 Nitroga Oxygen | |
| EPA TO-15 Analyte Code Analyte 5160 1,1,1-Trichloroethane 5110 1,2,2-Tetrachloroethane 5195 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane | |
| Analyte Code 5160 1,1,1-Trichloroethane 5110 1,1,2-Trichloroethane 5195 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane | |
| Analyte Code 5160 1,1,1-Trichloroethane 5110 1,1,2-Trichloroethane 5195 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane 5165 1,1,2-Trichloroethane | . , |
| 5160 1,1-Trickloroethane 5110 1M,2,2-Tetrachloroethane 5195 1,12-Trickloroet,2,2-trifluoroethane (Freon 118); 5165 1,1,2-Trickloroethane | |
| 5160 1,1-Trickloroethane 5110 1M,2,2-Tetrachloroethane 5195 1,12-Trickloroet,2,2-trifluoroethane (Freon 118); 5165 1,1,2-Trickloroethane | |
| 5110 1,1,2,2-Tetrachloroethane 5195 1,1,2-Trichloro 1,2,2-trifluoroethane (Freon 113), 5165 1,1,2-Trichloroethane | |
| 5195 1,1,2-Trichloro 1,2,2 (trifluoroethane (Freon 113); 5165 1,1,2-Trichloroethane | |
| 5165 1,1,2 Trichloropthane | |
| 4630 1.1-Dichernethanes | |
| | |
| 4640 1,1-Dichloroethyleng | |
| 5155 1,2,4-TrichloroDenzene | |
| 5210 1,2,4-Trimethylbenzerie | |
| 4585 1,2-Dibromoethane (EDB, Ethylene dibromide) | |
| 4695 1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114) | |
| 4610 1,2-Dichlorobenzene | |
| 4635 1,2-Dichloroethane (Ethylene dichloride) | |
| 4655 1,2-Dichloropropane | |
| 5215 1,3,5-Trimethylbenzene | |
| 9318 1,3-Butadiene 4615 1,3-Dichlorobenzene | |
| 4620 1,4-Dichlorobenzene | |
| 4735 1,4-Diotholobelizerie | |
| 4836 1-Propene | |
| 5220 2,2,4-Trimethylpentane | |
| 4410 2-Butanone (Methyl ethyl ketone, MEK) | |
| 4535 2-Chlorotoluene | |
| 4860 2-Hexanone | |
| 4542 4-Ethyltoluene | |
| 4995 4-Methyl-2-pentanone (MIBK) | |
| 4300 Acetaldehyde | |
| 4315 Acetone | |
| 4320 Acetonitrile | |
| 4355 Allyl chloride (3-Chloropropene) | |
| 4375 Benzene | |
| 5635 Benzyl chloride | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date:

01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| eference | | Code | Description |
|---------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| EPA 150.1 | | 10008409 | pH - Electrometric Measurement |
| Analyte Code | Analyte | | |
| 1900 | рН | | |
| EPA 180.1 2 | | 10011800 | Turbidity - Nephelometric |
| Analyte Code | Analyte | And the second s | |
| 2055 | Turbidity | // R = | UISA |
| EPA 200.7 5 | // | 10014003 | ICP - metals |
| Analyte Code | Analyte | | |
| 1000 | Aluminum / | | |
| 1015 | /Barium / | | |
| 1020 | Beryllium | | |
| 1030 1035 | Cadmium | | |
| 1035 1040 | Calcium Chromium | | |
| 1055 | Coppe | | |
| 1760 | Handness (c | alc | |
| 1070 | Iron | | |
| 1085 | Magnesium | | |
| 1090 | Manganese | 100 | |
| 1105 | Nickel " | | |
| 1150 | Silver | | |
| 1155 1190 | Sodium | | |
| | Zinc | Noorroo | W 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 |
| EPA 200.8 5.5 | | 1,0014809 | Metals by ICP MS |
| Analyte Code | Analyte" | | |
| 1010 | Antimony Arsenic | | 0812 |
| 1015 | Barium | | |
| 1020 | Beryllium | | |
| 1030 | Cadmium | | |
| 1040 | Chromium | | |
| 1055 | Copper | | |
| 1075 | Lead | | |
| 1090 | Manganese | | |
| 1105 1140 | Nickel Selenium | | |
| 1150 | Selenium Silver | | |
| 1165 | Thallium | | |
| 1190 | Zinc | | |
| EPA 245.1 3 | | 10036609 | Mercury by Cold Vapor Atomic Absorption |
| Analyte Code | Analyte | | |
| 1095 | Mercury | | |
| EPA 300.0 | | 10053006 | lon chromatography - anions. |
| Analyte Code | Analyte | | |
| 1540 | Bromide | | |
| 1570 1575 | Chlorate | | |
| 15/5 | Chloride | | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Co | de Analyte |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7540 | Endrin |
| 7530 | Endrin aldehyde |
| 7535 | Endrin ketone |
| 7120 | gamma-BHC (Lindane, gamma-HexachlorocyclohexanE) |
| 7685 | Heptachlor |
| 7690 | Heptachlor epoxide |
| 6275 | Hexachlorobenzene |
| 6285 | Hexachlorocyclopentadiene |
| 7810 | Methoxychlor |
| 8045 | Propachlor (Ramrod) |
| 8250 | Toxaphene (Chlorinated camphene) |
| 8295 | Trifluralin (Troflan) |
| PA 515.1 4 | 10087408 Chlorinated acids Liquid/Liquid and GC/ECD |
| Analyte Co | |
| 8655 | 2,4,5-1 |
| 8545 | 2,4-D |
| 8560 | 2,4-DB/ |
| 8555 | Dalapon (* 1845) |
| 8595 | Dicamba |
| 8605 | Dicalitica Dichloropreps (Dichlorprop) |
| 8620 | Dicha de propriede propriede propriede de la company de la |
| 8650 | Silvexical 4.5 ETP |
| PA 524.2 4 | 10089006 July Volatile Oliganic Compounds by purge and trap |
| 7.021.2 | GCMS |
| Analyte Co | de Analyte |
| 5105 | 1,1,1,2\Tetrachloroethane |
| PA 524.2 4.1 | 10088809 Volatile Organic Compounds GC/MS Capillary |
| | Column |
| Analyte Co | de Analyte |
| 5105 | 1,1,1,2\Tetrachloroethane |
| 5160 | 1,1,1-Trichlordethane |
| 5110 | 1,1,2,2-Tetrachloroethane |
| 5165 | 1,1,2-Trichloroethane |
| 4630 | 1,1-Dichloroethane |
| 4640 | 1,1-Dichloroethylene |
| 4670 | 1,1-Dichloropropene |
| 5150 | 1,2,3-Trichlorobenzene |
| 5180 | 1,2,3-Trichloropropane |
| 5155 | 1,2,4-Trichlorobenzene |
| 5210 | 1,2,4-Trimethylbenzene |
| 4570 | 1,2-Dibromo-3-chloropropane (DBCP) |
| 4585 | 1,2-Dibromoethane (EDB, Ethylene dibromide) |
| 4610 | 1,2-Dichlorobenzene |
| 4635 | 1,2-Dichloroethane (Ethylene dichloride) |
| 4655 | 1,2-Dichloropropane |
| 6800 | 1,3,5-Trichlorobenzene |
| 5215 | 1,3,5-Trimethylbenzene |
| 4615 | 1,3-Dichlorobenzene |
| | , , , , , , , , , , , , , , , , , , , |
| 4660 4630 | 1,3-Dichloropropane |
| 4620 | 1,4-Dichlorobenzene |
| 4665 | 2,2-Dichloropropane |
| 4410 | 2-Butanone (Methyl ethyl ketone, MEK) |
| 4535 | 2-Chlorotoluene |
| 4860 | 2-Hexanone |
| | |
| 4540 4910 | 4-Chlorotoluene |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date:

01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte | | |
|--------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2055 | Turbidity | | |
| SM 2150 B 20th ED | | 20043407 | Odor by Threshold Odor Test |
| Analyte Code | Analyte | | |
| 1855 | Odor | | |
| SM 2320 B 20th ED | | 20045209 | Alkalinity by Titration |
| Analyte Code | Analyte | The state of the s | |
| 1505 | Alkalinity as Ca | aCØ3 | |
| SM 2340 B 20th ED | | 20046202 | Hardness by calculation |
| Analyte Code | Analyte | | |
| 1750 | Hardness / | | |
| SM 2510 B 20th ED | 1 // | 20048208 | Conductivity by Plobe |
| Analyte Code | Analyte | | <u> </u> |
| 1610 | Conductivity | | |
| SM 2540 C 20th ED | | 20050004 | Total Dissolved Solids |
| Analyte Code | Analyte | | All Parties Control of the Control o |
| 1955 | Residue filtera | biel(TD5) and | |
| SM 4110 B 20th ED | | 20076602 | Amons by Ion Chromatography with Chemical Suppression of Eluent |
| Analyte Code | Analyte | | 34 2 3 3 3 3 3 3 3 3 3 3 |
| 1575 | Öhloride | | |
| 1730 1810 | Fluoride Nitrate as N | | |
| 1840 | Nitrite as N | | |
| 1870 | Orthophosphai | | |
| 2000 | Sulfate | <u> </u> | |
| SM 4500-CI G 20th ED | 2 | 20081203 | Residual Chlorine by DPD Colorimetric |
| Accelerte Octob | A to . 4 | | Determination |
| Analyte Code | Analyte Total residual of | oblorino | |
| | | | |
| SM 4500-CN C 20th ED | 2 | 20091605 | Cyanide, Total After Distillation |
| Analyte Code | Analyte | | |
| 1635 | Cyanide | | |
| SM 4500-CN E 20th ED | | 20092404 | Cyanide by Colorimetric Determination |
| OIVI TOUCTOIN L ZUIII LU | 4 | 20002707 | Gyanide by Coloninetic Determination |
| Analyte Code | Analyte | | |
| 1635 | Cyanide | | |
| 1645 | Total cyanide | | |
| SM 4500-CN G 20th ED | | 20093203 | Cyanide Amenable to Chlorination after Distillation |
| Analyte Code | Analyte | | |
| 1510 | Amenable cyar | nide | |
| | | | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| eference | | Code | D | Description |
|------------------|----------------------------|-------------------------|-------|----------------------------------------------------------------|
| ASTM D1067-92 | | 30003806 | A | cidity or Alkalinity of Water |
| Analyte C | ode Analyte | | | |
| 1500 | Acidity, as C | aCO3 | | |
| EPA 1000 | | 10114600 | | athead Minnow Larval Survival and Growth, |
| Analyte C | | | CI | hronic (EPA 821/R-02/013) |
| 3450 | Tox, chronic | fw organism | | |
| EPA 1002 | /(| 10115001 | | aphnid Survival and Reproduction, chronic PA 821/R-02/013) |
| Analyte C | | <u> (</u> | | |
| 3450 | yox, chronic | fw organism. | | |
| EPA 1010 | ada / nulis | 10116606 | | ensky Martens Closed-Cup Method for etermining Ignitability |
| | ode Analyte Ignitability | | | |
| EPA 1010A | 19118 | 102 <mark>3</mark> 4807 | | ensky-Maniens Closed-Cup Method for |
| Analyte C | ode Analyte Ignitabiliy | | D. D. | eierminija o <mark>k</mark> nitability |
| EPA 1110 | | 10118000 | C | orgonizity oward Steel |
| Analyte C | ode Analyte Corrosivity | | | |
| EPA 1110A | | r/0235208 | · G | orresivity Poward Steel |
| | | 77 | | |
| Analyte C | | | | |
| | Corrosivity | | | |
| EPA 120.1 | | 10006403 | Co | onductance - Specific @ 25 C |
| Analyte C | ode Analyte | | | |
| 1610 | Conductivity | | | |
| EPA 130.1 | | 10006801 | На | ardness - Colorimetric, Automated EDTA |
| Analyte C | ode Analyte | | | |
| 1750 | Hardness | | | |
| EPA 1311 | | 10118806 | To | oxicity Characteristic Leaching Procedure |
| Analyte C | ode Analyte | | | |
| 308 | Extraction/Pr | eparation | | |
| EPA 1312 | | 10119003 | Sy | ynthetic Precipitation Leaching Procedure |
| Analyte C | ode Analyte | | | |
| 308 | Extraction/Pr | eparation | | |

ORELAP ID: TN200002
EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

1 Expiration Data

Expiration Date: 01/15/2012

As of 01/16/2011 this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte | | |
|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1075 | Lead | | |
| 1085 | Magnesium | | |
| 1090 | Manganese | | |
| 1100 | Molybdenum | | |
| 1105 | Nickel | | |
| 1125 | Potassium | | |
| 1140 | Selenium | | |
| 1150 | Silver | | |
| 1155 | Sodium | | |
| 1165 | Thallium | and the state of t | 100 COM 100 CO |
| 1175 | Tin | 200 | |
| 1180 | Titanium | / a = L | |
| | | and the second second | |
| 1185 | Vanadium/ | | |
| 1190 | Zinc | | |
| EPA 200.8 5.5 | /:e-/ | 10014809 | Metals by ICP MS |
| Analyte Code | / Analyte | | |
| 1005 | Antimony | proper la company de la compan | |
| 1010 | Arsenic | | |
| 1015 | Barium | | |
| 1020 | Beryllium | | |
| 1030 | Cadmium | | |
| 1040 | Chronium | | |
| 1055 | Copper | 100 | |
| 1075 | Lead | The second second | |
| 1090 | | | |
| 1100 | Manganese Molybdenum | The state of the s | and the second of the second o |
| 1105 | | | |
| | Nickel | | |
| 1140 | Selenium | | |
| 1150 | Silver | | |
| 1165 | Thallium | | |
| 1175 | Tin | | 10 million |
| 1180 | Titanium | | |
| 1185 | Vanadium 🧗 | | |
| 1190 | Zinc | Y / Lin | |
| EPA 2000 Fathead minnov | w Acute | 10264809 | Fathead Minnow, acute |
| MHSF 20°C | 7 7 10010 | TOZO TOOO Santa Managan Managa | T difford Williamovi, douto |
| Analyte Code | Analyte | | |
| 3455 | Toxicity, acute, | fw organism | |
| | | | |
| TD 4 0000 0 | | 10214605 | |
| | ubia Acute | .02.1000 | Cerodaphnia dubia, acute |
| 20% DMW 20°C | | .02 . 1000 | Cerodaphnia dubia, acute |
| | Analyte | | Cerodaphnia dubia, acute |
| 20% DMW 20°C | Analyte | u & marine organism | Cerodaphnia dubia, acute |
| 20% DMW 20°C Analyte Code 3440 | Analyte Tox, acute, est | u & marine organism | |
| 20% DMW 20°C <i>Analyte Code</i> 3440 | Analyte Tox, acute, est | | Dissolved Hexavalent Chromium by Ion |
| 20% DMW 20°C | Analyte Tox, acute, est | u & marine organism | |
| 20% DMW 20°C | Analyte Tox, acute, est Analyte | u & marine organism | Dissolved Hexavalent Chromium by Ion |
| 20% DMW 20°C Analyte Code 3440 EPA 218.6 | Analyte Tox, acute, est | u & marine organism | Dissolved Hexavalent Chromium by Ion |
| 20% DMW 20°C | Analyte Tox, acute, est Analyte Chromium VI | u & marine organism | Dissolved Hexavalent Chromium by Ion Chromatography |
| 20% DMW 20°C Analyte Code 3440 EPA 218.6 Analyte Code 1045 EPA 245.1 3 | Analyte Tox, acute, est Analyte Chromium VI | u & marine organism 10268403 | Dissolved Hexavalent Chromium by Ion |
| 20% DMW 20°C Analyte Code 3440 EPA 218.6 Analyte Code 1045 EPA 245.1 3 Analyte Code | Analyte Tox, acute, est Analyte Chromium VI Analyte | u & marine organism 10268403 | Dissolved Hexavalent Chromium by Ion Chromatography |
| 20% DMW 20°C Analyte Code 3440 EPA 218.6 Analyte Code 1045 EPA 245.1 3 | Analyte Tox, acute, est Analyte Chromium VI | u & marine organism 10268403 | Dissolved Hexavalent Chromium by Ion Chromatography |
| 20% DMW 20°C Analyte Code 3440 EPA 218.6 Analyte Code 1045 EPA 245.1 3 Analyte Code 1095 | Analyte Tox, acute, est Analyte Chromium VI Analyte Mercury | u & marine organism 10268403 | Dissolved Hexavalent Chromium by Ion Chromatography Mercury by Cold Vapor Atomic Absorption |
| 20% DMW 20°C Analyte Code 3440 EPA 218.6 Analyte Code 1045 EPA 245.1 3 Analyte Code 1095 | Analyte Tox, acute, est Analyte Chromium VI Analyte Mercury | u & marine organism 10268403 10036609 | Dissolved Hexavalent Chromium by Ion Chromatography Mercury by Cold Vapor Atomic Absorption Methods for the Determination of Inorganic |
| 3440 EPA 218.6 Analyte Code 1045 EPA 245.1 3 Analyte Code | Analyte Tox, acute, est Analyte Chromium VI Analyte Mercury | u & marine organism 10268403 10036609 | Dissolved Hexavalent Chromium by Ion Chromatography Mercury by Cold Vapor Atomic Absorption |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Customers. FLease ve | rify the current accreditation sta | naing with Orelap. |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EPA 3520C | 10139001 | Continuous Liquid-liquid extraction |
| Analyte Code | e Analyte | |
| 308 | Extraction/Preparation | |
| EPA 353.2 2 | 10067604 | Nitrate/Nitrite Nitrogen - Automated, Cadmium |
| Analyte Code | e Analyte | |
| 1820 6484 | Nitrate-nitrite Nitrocellulose | |
| EPA 376.1 | 10074204 | Sulfide - Titrimetric, lodine. |
| | | Tallinotino, redilite. |
| Analyte Code | | |
| 2005 | Sulfide | |
| EPA 410.4 2 | 10077404 | Chemical Oxygen Demand - Colorimetric, |
| Analyte Code | Analyte - | Automated: |
| 1565 | Chemical oxygen demand | |
| EPA 420.1 | 10079400 | Phenolics Spectrophotometric, manual. |
| | Control of the Contro | |
| Analyte Code | | |
| 1905 | Total anenolics | |
| EPA 420.4 | 10080203 | Priendics Total Recoverable by Semi- |
| Analyte Code | Analyte | Automated Colorimetry |
| 1905 | Total phenolics | A Comment of the Comm |
| EPA 5030B | 10153409 | Purge and trap for aqueous samples |
| LI A 3030B | 10,00400 | is urge and trap for aqueous samples |
| Analyte Code | e Analyte | |
| 308 | Extraction/Preparation | |
| EPA 5030C | 10284603 | R Purge-and-Trap for Aqueous Samples |
| Analyte Code | e Analyte | |
| 308 | Extraction/Preparation | |
| EPA 6010B | 10155609 | ICP - AES |
| Analyte Code | Analyte | |
| 1000 | Aluminum | |
| 1005 | Antimony | |
| 1010 | Arsenic | |
| 1015 | Barium Baridium | |
| 1020 1025 | Beryllium Boron | |
| 1030 | Cadmium | |
| 1035 | Calcium | |
| 1040 | Chromium | |
| 1050 | Cobalt | |
| 1055 | Copper | |
| 1070 | Iron | |
| 1075 | Lead | |
| 1080 | Lithium | |
| | | |
| 1085 | Magnesium | |
| 1085 1090 | Magnesium Manganese | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

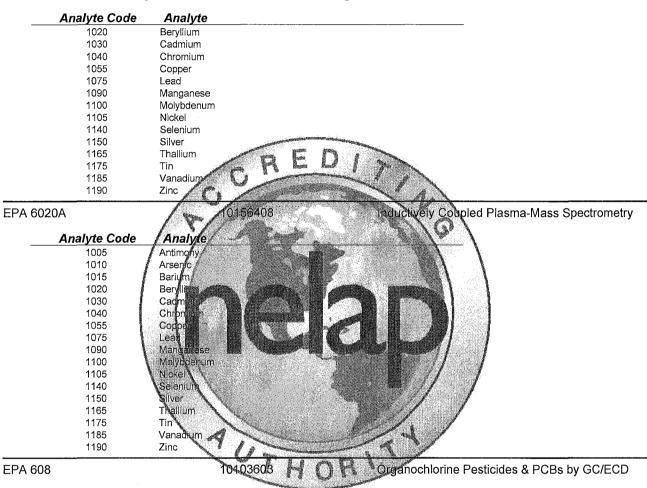
Issue Date: 01

01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.



| Analyte Code | Analyte |
|--------------|-----------------------------------------|
| 7355 | 4,4'-DDD |
| 7360 | 4,4'-DDE |
| 7365 | 4,4'-DDT |
| 7025 | Aldrin |
| 7110 | alpha-BHC (alpha-Hexachlorocyclohexane) |
| 7240 | alpha-Chlordane |
| 8880 | Aroclor-1016 (PCB-1016) |
| 8885 | Aroclor-1221 (PCB-1221) |
| 8890 | Aroclor-1232 (PCB-1232) |
| 8895 | Aroclor-1242 (PCB-1242) |
| 8900 | Aroclor-1248 (PCB-1248) |
| 8905 | Aroclor-1254 (PCB-1254) |
| 8910 | Aroclor-1260 (PCB-1260) |
| 7115 | beta-BHC (beta-Hexachlorocyclohexane) |
| 7250 | Chlordane (tech.) |
| 7265 | Chloroneb |
| 7310 | Chlorthalonil (Daconil) |
| 7105 | delta-BHC |
| 7470 | Dieldrin |
| 7510 | Endosulfan I |
| 7515 | Endosulfan II |
| 7520 | Endosulfan sulfate |
| | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| | Analyte Code | Analyte | |
|-------------|--------------|------------------------------------------------------|----------------------------------------------|
| | 8245 | Tokuthion (Prothiophos) | |
| EPA 624 | | 10107207 | Volatile Organic Compounds by purge and trap |
| LI / \ 02-1 | | 10101201 | GC/MS |
| | Analyte Code | Analyte | |
| | 5105 | 1,1,1,2-Tetrachloroethane | |
| | 5160 | 1,1,1-Trichloroethane | |
| | 5110 | 1,1,2,2-Tetrachloroethane | |
| | 5195 5165 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | |
| | 4630 | 1,1-Dichloroethane | |
| | 4640 | 1,1-Dichloroethylene | |
| | 4670 | 1,1-Dichloropropené | |
| | 5150 | 1,2,3-Trichtörobenzene | |
| | 5180 | 1,2,3-Trichioropropage | |
| | 5182 5155 | 1.Z.3 Trimetrylbenzene | |
| | 5210 | 1,2,4-Trichforobenzene 1,2,4-Trimethylbenzene | |
| | 4570 | 1,2-Dibromo-3-chloropropane (DBCP): | |
| | 4585 | 1,2-Dipromoethane (EDB Ethylene ribromide) | |
| | 4610 | 1,2-Dichlorøbenzene | |
| | 4635 | 1,2-Dichtorgethane (Ethylene dichtoride) | |
| | 4655 | 1,2-Dichleropropane | |
| | 5215 | 1,3,5-Triinethylbenzane | |
| | 4615 4660 | 1,3-Diemoroben zene 1,3-Diemoroproprise | |
| | 4620 | 1,4-Bish brobenzene | |
| | 4735 | 1.4-Dioxane (1.4- Diethyleneoxide) | |
| | 4665 | 2.2-Dichloropropane | |
| | 4410 | 2-Butanonė (Methyl ethyl ketone, MEK) 👛 👙 | |
| | 4500 | 2-Chloroethyl vinyl ether | |
| | 4535 | 2-Chlorotoluene | |
| | 4860 5020 | 2-Hexanone 2-Nitropropane | |
| | 4540 | 4-Chlorofoluene | |
| | 4910 | 4-Isopropyltokiene (p-Cymene) | |
| | 4995 | 4-Methyl-2-pentanone (MIBK) | |
| | 4315 | Acetone | |
| | 4320 | Acetonitrile | |
| | 4325 | Acrolein (Propenal) | |
| | 4340 4355 | Acrylonitrile Allyl chloride (3-Chloropropene) | |
| | 4375 | Benzene | |
| | 4385 | Bromobenzene | |
| | 4390 | Bromochloromethane | |
| | 4395 | Bromodichloromethane | |
| | 4397 | Bromoethane (Ethyl Bromide) | |
| | 4400 | Bromoform | |
| | 4450 4455 | Carbon disulfide Carbon tetrachloride | |
| | 4475 | Chlorobenzene | |
| | 4575 | Chlorodibromomethane | |
| | 4485 | Chloroethane (Ethyl chloride) | |
| | 4505 | Chloroform | |
| | 4525 | Chloroprene (2-Chloro-1,3-butadiene) | |
| | 4645 | cis-1,2-Dichloroethylene | |
| | 4680 4600 | cis-1,3-Dichloropropene cis-1,4-Dichloro-2-butene | |
| | 4555 | Cyclohexane | |
| | 4560 | Cyclohexanone | |
| | 4595 | Dibromomethane (Methylene bromide) | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte |
|--------------|---------------------------------------------------------------|
| 6835 | 2,4,5-Trichlorophenol |
| 6840 | 2,4,6-Trichloropheno! |
| 6000 | 2,4-Dichlorophenol |
| 6130 | 2,4-Dimethylphenol |
| 6175 | 2,4-Dinitrophenol |
| 6185 | 2,4-Dinitrotoluene (2,4-DNT) |
| 6190 | 2,6-Dinitrotoluene (2,6-DNT) |
| 5795 | 2-Chloronaphthalene |
| 5800 | 2-Chlorophenol |
| 6360 | 2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol) |
| 6385 | 2-Methylnaphthalene |
| 6400 | |
| | 2-Methylphene (o-Cresol) |
| 6430 | 2-Naphthylamine |
| 6460 | 2-Nitroaniline |
| 6490 | 2-Nitrophenol |
| 5945 | 3,3-Dishlorobenzidine |
| 6465 | 3-Nitroaniline |
| 5540 | 4-Aminobiphenyl |
| 5660 | 4-Bromophenyl phenyl ether |
| 5700 | 4-Chloro-3-methylphenol |
| 5745 | 4-Chforoaniline |
| 5825 | 4-ChlorophenWebhenvietheri |
| 6410 | 4-Metay(phenoli(ic)Cresci) |
| 6470 | 4-Nitroamiline |
| 6500 | 4-Nitrophenol |
| 5500 | Acenaminene |
| 5505 | Acenaphithylene |
| 5510 | Acetophenone |
| 6700 | alpha-Terpineol |
| 5545 | Aniline |
| 5555 | Anthracene |
| 5595 | Benzidine |
| 5575 | Benzo(a)anthracene |
| 5575 5580 | |
| | Benzo(a)pyrene |
| 5590 5600 | Benzo(g,h,i)perylene Benzo(k)fluoranthene |
| 5600 | |
| 5585 | Benzo[b]fluoranthene |
| 5610 | Benzoic acid |
| 5760 | bis(2-Chloroethoxy)methane |
| 5765 | bis(2-Chloroethyl) ether |
| 5780 | bis(2-Chloroisopropyl) ether |
| 5670 | Butyl benzyl phthalate |
| 5680 | Carbazole |
| 5855 | Chrysene |
| 6065 | Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP) |
| 5895 | Dibenz(a,h) anthracene |
| 5905 | Dibenzofuran |
| 6070 | Diethyl phthalate |
| 6135 | Dimethyl phthalate |
| 5925 | Di-n-butyl phthalate |
| 6200 | * * |
| | Di-n-octyl phthalate |
| 7580 | Famphur |
| 6265 | Fluoranthene |
| 6270 | Fluorene |
| 6275 | Hexachlorobenzene |
| 4835 | Hexachlorobutadiene |
| 6285 | Hexachlorocyclopentadiene |
| 4840 | Hexachloroethane |
| 6290 | Hexachlorophene |
| 6295 | Hexachloropropene |
| | 1 lexacition opioperio |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date:

01/16/2011 Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

Customers. PLease verify the current accreditation standing with ORELAP.

EPA 8021B 10174808 Aromatic and Halogenated Volatiles by GC with PID and/or ECD Purge & Trap Analyte Code Analyte 4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 5245 m-Xylene 5250 o-Xylene 5255 p-Xylene Toluene 5140 5260 Xylene (total) **EPA 8081A** 0178606 Organochlorine Pesticides by GC/ECD Analyte 4,4/DDD Analyte Code 7355 7360 44-DDE 7365 .4'-DD1 7005 Alachlo 7025 Aldrin 7110 alpha-BHC (alpha-Hexach -Chlordane 7240 7115 7250 Chil 7265 7310 7105 7470 Endosulfan I 7510 7515 Endosulfan II Endosulfan sulfate 7520 7540 Endrin 7530 Endrin aldehyd Endrin ketone Etridiazole 7535 7575 nmma HexachlorocyclohexanE) gamma-BHC (Lindane 7120 gamma-Chlordar 7245 7685 Heptachlor 7690 Heptachlor epoxide 6275 Hexachlorobenzene 6285 Hexachlorocyclopentadiene 7810 Methoxychlor 7975 Permethrin (total) Propachlor (Ramrod) 8045 8250 Toxaphene (Chlorinated camphene) 8295 Trifluralin (Treflan) EPA 8081B 10178800 Organochlorine Pesticides by GC/ECD

| Analyte Code | Analyte |
|--------------|-----------------------------------------|
| 7355 | 4,4'-DDD |
| 7360 | 4,4'-DDE |
| 7365 | 4,4'-DDT |
| 7005 | Alachlor |
| 7025 | Aldrin |
| 7110 | alpha-BHC (alpha-Hexachlorocyclohexane) |
| 7240 | alpha-Chlordane |
| 7115 | beta-BHC (beta-Hexachlorocyclohexane) |
| 7250 | Chlordane (tech.) |
| 7265 | Chloroneb |
| 7310 | Chlorthalonil (Daconil) |
| | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date:

01/16/2011

7395

7385 7410

7770

7785 7825

7850 7905

7985

8110

8155 8200

8210

8245 8275

Expiration Date: 01/15/2012

As of 01/16/2011 this list supercedes all previous lists for this certificate number. Customers. PLease verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte |
|--------------|-------------------------------------------------|
| 7770 | Malathion |
| 7785 | Merphos |
| 7825 | Methyl parathion (Parathion, methyl) |
| 7850 | Mevinphos |
| 7905 | Naled |
| 7985 | Phorate |
| 8110 | Ronnel |
| 8155 | Sulfotepp |
| 8200 | Tetrachlorvinphos (Stirophos, Gardona) Z-isomer |
| 8210 | Tetraethyl pyrophosphate (TEPP) |
| 8245 | Tokuthion (Prothiophos) |
| 8275 | Trichloronate |
| EPA 8141B | 10182204 Organophosphorous Pesticides by GC/NPD |
| Analyte Code | Afnalyte / |
| 7075 | zinphos-nethyl (Gütnion) |
| 7125 | Bolstar (Sulprofos) |
| 7300 | Chlorp rites |
| 7315 | Counaphos |

Dem Dia: Fenthion Malathion Merphos Methyl parathic (Parathion methyl) Mevinphos . Naled Phorate Ronnel Sulfotepp Tetrachlorvinphos (Stirophos, Gardona) Z-isomer Tetraethyl pyrophosphate (TEPP) Tokuthion (Prothiophos) Trichloronate

EPA 8151A

10183207

Chlorinated Herbicides by GC/ECD

| Analyte Code | Analyte |
|--------------|-----------------------------------------------|
| 8655 | 2,4,5-T |
| 8545 | 2,4-D |
| 8560 | 2,4-DB |
| 8555 | Dalapon |
| 8595 | Dicamba |
| 8605 | Dichloroprop (Dichlorprop) |
| 8620 | Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP) |
| 7775 | MCPA |
| 7780 | MCPP |
| 8650 | Silvex (2,4,5-TP) |

EPA 8260B

10184802

Volatile Organic Compounds by purge and trap GC/MS

Analyte Code

Analyte

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01

01/16/2011

EX

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

Customers. PLease verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte | |
|--------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4750 | Ethanol | |
| 4755 | Ethyl acetate | |
| 4810 | Ethyl methacrylate | |
| 4765 | Ethylbenzene | |
| 4770 | Ethyl-t-butylether (ETBE) (2-Ethoxy-2-m | ethylpropane) |
| 4835 | Hexachlorobutadiene | |
| 4840 | Hexachloroethane | |
| 4870 | Iodomethane (Methyl iodide) | |
| 4875 | Isobutyl alcohol (2-Methyl-1-propanol) | |
| 4895 | Isopropyl alcohol (2-Propanel, Isopropar | 101) |
| 4900 | Isopropylbenzene | |
| 4925 | Methacrylonitrile 💮 💆 🖦 | |
| 4940 | Methyl acetate | |
| 4945 | Methyl acrylate | |
| 4950 | Methyl bromide (Bromomethane) | |
| 4960 | Methyl-chloride (Chloromethane) | |
| 4990 | Methyl methacrylate | |
| 5000 | Methyl tert-butyl ether (MTBE) | |
| 4965 | Methylcyclohexane | |
| 4975 | Methylene chloride (Dichloromethane) | |
| 5245 | m-XVIene | |
| 5005 | Naphthalene | |
| 4425 | n-Buty, alcohol (#Butanol, n-Butanol) | |
| 4435 | n-Butylbenzene | The second second |
| 5025 | n-Nitro sp-di-n-buty anime- | |
| 5090 | n-Procylbenzene | |
| 5250 | o-Xylene III | Application of the second |
| 5035 | Pentachloroethane | |
| 5080 | Propionitrile (Ethyl cyanide) | |
| 5255 | p-Xylene | |
| 4440 | sec-Butylbenzene | |
| 5100 | Styrene | |
| 4370 | T-amylmethylether (TAME) | |
| 303 | tert-anyl alcohol | |
| 4420 | tert-Butyl alcohol | |
| 4445 | tert-Butylbenzene | |
| 304 | tert-butyl-formate | |
| 5115 | Tetrachloroethylene (Perchloroethylene) | And the state of t |
| 5120 | Tetrahydrofuran (THF) | |
| 5140 | Toluene | |
| 4700 | trans-1,2-Dichloroethylene | |
| 4685 | trans-1,3-Dichloropropylene | |
| 4605 5170 | trans-1,4-Dichloro-2-butene | |
| 5170 5175 | Trichloroethene (Trichloroethylene) Trichlorofluoromethane (Fluorotrichlorom | sothana Eroon 11) |
| 5175 5225 | • | lemane, rieon 11) |
| 5225 5235 | Vinyl acetate Vinyl chloride | |
| 5235 5260 | Xylene (total) | |
| 5200 | Aylerie (total) | |
| 8260C | 10307003 | Volatile Organics: GC/ |

EPA 8260C

10307003

Volatile Organics: GC/MS (capillary column)

| Analyte Code | Analyte |
|--------------|---------------------------------------------------|
| 5105 | 1,1,1,2-Tetrachloroethane |
| 5160 | 1,1,1-Trichloroethane |
| 5110 | 1,1,2,2-Tetrachloroethane |
| 5195 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) |
| 5165 | 1,1,2-Trichloroethane |
| 4630 | 1,1-Dichloroethane |
| 4640 | 1,1-Dichloroethylene |
| 4670 | 1,1-Dichloropropene |
| 5150 | 1,2,3-Trichlorobenzene |
| | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

Customers. PLease verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte |
|-----------------------------------------|----------------------------------------------------------|
| 4895 | Isopropyl alcohol (2-Propanol, Isopropanol) |
| 4900 | Isopropylbenzene |
| 4925 | Methacrylonitrile |
| 4940 | Methyl acetate |
| 4945 | Methyl acrylate |
| 4950 | Methyl bromide (Bromomethane) |
| 4960 | Methyl chloride (Chloromethane) |
| 4990 | Methyl methacrylate |
| 5000 | Methyl tert-butyl ether (MTBE) |
| 4965 | Methylcyclohexane |
| 4975 | Methylene chloride (Dichleromethane) |
| 5245 | m-Xylene |
| 5005 | Naphthalene |
| 4425 | n-Butyl alcohol (1-Butanol, n-Butanol) |
| 4435 | n-Butylbenzene |
| 5015 | Nitrobenzene |
| 5025 | n-Nitroso-al-n-butylamine |
| 5090 | /n-Propylbenzene |
| 5250 | o-Xylene |
| 5035 | Pentachloroethane |
| 5080 | Propionitrile (Ethyl cyanide) |
| 5255 | p-Xylene: |
| 6685 | Saftole |
| 4440 | sec Butylbenzere |
| 5100 | Styrene |
| 4370 | T-arpylimethylethien (TAME) |
| 4420 | tert-Buryli alcoholis |
| 4445 | tert-Butylbenzene |
| 5115 | Tetrachjorgethylene (Perchloroethylene) |
| 5120 | Tetrahydrofuran (THF) |
| 5140 | Foluene (1997) |
| 4700 | trans-1,2-Dichloroethylene |
| 4685 | trans-1,3-Dichloropropylene |
| 4605 | trans-1,4-Dichioro-2-butene |
| 5170 | Trichloroethene (Trichloroethylene) |
| 5175 | Trichlorofluoromethane (Eluorotrichloromethane Freen 11) |
| 5225 | Vinyl acetate |
| 5235 | Vinyl chloride |
| 5260 | Xylene (total) |
| * * * * * * * * * * * * * * * * * * * * | |

EPA 8270C

10185805

Semivolatile Organic compounds by GC/MS

| Analyte Code | Analyte | |
|--------------|-----------------------------------|--|
| 6705 | 1,2,3,4-Tetrachlorobenzene | |
| 6710 | 1,2,3,5-Tetrachlorobenzene | |
| 6715 | 1,2,4,5-Tetrachlorobenzene | |
| 5155 | 1,2,4-Trichlorobenzene | |
| 4610 | 1,2-Dichlorobenzene | |
| 6221 | 1,2-Diphenylhydrazine | |
| 6885 | 1,3,5-Trinitrobenzene (1,3,5-TNB) | |
| 4615 | 1,3-Dichlorobenzene | |
| 6160 | 1,3-Dinitrobenzene (1,3-DNB) | |
| 4620 | 1,4-Dichlorobenzene | |
| 6420 | 1,4-Naphthoquinone | |
| 5790 | 1-Chloronaphthalene | |
| 6425 | 1-Naphthylamine | |
| 6735 | 2,3,4,6-Tetrachlorophenol | |
| 6835 | 2,4,5-Trichlorophenol | |
| 6840 | 2,4,6-Trichlorophenol | |
| 6000 | 2,4-Dichlorophenol | |
| 6130 | 2,4-Dimethylphenol | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01

01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5900 | Dibenz(a, j) acridine |
| 5895 | Dibenz(a,h) anthracene |
| 9348 | Dibenzo(a, h) pyrene |
| 9351 | Dibenzo(a, i) pyrene |
| 5890 | Dibenzo(a,e) pyrene |
| 5905 | Dibenzofuran |
| 6070 | Diethyl phthalate |
| 7475 | Dimethoate |
| | |
| 6135 | Dimethyl phthalate |
| 5925 | Di-n-butyl phthalate |
| 6200 | Di-n-octyl phthalate |
| 8620 | Dinoseb (2-sec-butyl-4,6-dinitrophenol-BNBP) |
| 6205 | Diphenylamine |
| 8625 | Disulfoton |
| 6260 | Ethyl methanesulfonate. |
| 7580 | Famphur |
| 6265 | Fluoranthene |
| 6270 | Fluorene |
| 6275 | Hexachiorobenzene |
| 4835 | Hexachlorobutadiene |
| | |
| 6285 | Hexachlorocyclopentadiene |
| 4840 | Hexachloroethane |
| 6290 | Hexaging rophered and the second seco |
| 6295 | Hexagniloroproperie |
| 6315 | Indenovit 2:3-cd/pyteme |
| 7725 | Isodrini |
| 6320 | Isophorane |
| 6325 | Isosafrole |
| 7740 | Kepone |
| 6345 | Methap y rilene |
| 6375 | Vietnyl methanesulfonate |
| 7825 | Methyl parathion (Parathion, methyl) |
| 5005 | Nabhhalene |
| | |
| 5015 | Nitrobenzene |
| 6525 | n-Nitrosoclethylamine |
| 6530 | n-Nitrosodimethylamine |
| 5025 | n-Nitroso-di-n-butylamine |
| 6545 | n-Nitrosodi-n-propylamine |
| 6535 | n-Nitrosodiphenylamine |
| 6550 | n-Nitrosomethylethalamine |
| 6555 | n-Nitrosomorpholine |
| 6560 | n-Nitrosopiperidine |
| 6565 | n-Nitrosopyrrolidine |
| 8290 | o,o,o-Triethyl phosphorothioate |
| 6590 | Pentachlorobenzene |
| 5035 | Pentachloroethane |
| 6600 | Pentachloronitrobenzene |
| | |
| 6605 | Pentachlorophenol Rhonopetin |
| 6610 | Phenacetin |
| 6615 | Phenanthrene |
| 6625 | Phenol |
| 7985 | Phorate |
| 9663 | p-Phenylenediamine |
| 6650 | Pronamide (Kerb) |
| 6665 | Pyrene |
| 5095 | Pyridine |
| 6685 | Safrole |
| 8155 | Sulfotepp |
| 0100 | Canology |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Inalyte Code | Analyte |
|--------------|----------------------------------------------------------------------------|
| 5595 | Benzidine |
| 5575 | Benzo(a)anthracene |
| 5580 | Benzo(a)pyrene |
| 5590 | Benzo(g,h,i)perylene |
| 9309 | Benzo(i)fluoranthene |
| 5600 | Benzo(k)fluoranthene |
| 5585 | Benzo[b]fluoranthene |
| 5610 | Benzoic acid |
| 5625 | Benzotrichloride |
| 5630 | Benzyl alcohol |
| 5635 | Benzyl chloride |
| 5760 | bis(2-Chloroethoxy)methane |
| 5765 | bis(2-Chloroethyl) ether |
| | bis(2-Critionaethyn) erner |
| 5780 | bis(2-Chiordisopropyl) ether |
| 5670 | Buty/benzyliphtialate |
| 5680 | Carbazole |
| 7260 | Chlorobenzilate |
| 5855 | Chrysene |
| 6065 | Di(2-et/fyl/nexyl) phthalate (bis(2-Etaylhexyl)phthalate DEHP) |
| 7405 | Diallate |
| 9354 | Dibenz(a, h) acridine |
| 5900 | Dibenzia i) regraine |
| 5895 | Dibenzia m antimacene |
| 9348 | Dibenzera, h) pyrene |
| 9351 | Ďibenzo(a; i) pyrene |
| 5890 | Dibenzora e) pyrejae |
| 5905 | Diben, o(e) e) py e ve Diben, o(e) e) py e ve Diben, o(e) e) py e ve |
| 6070 | □ Diethy/ phthalate |
| 7475 | Dimetroate |
| 6135 | Dimethy) phthalate |
| 5925 | Di-n-butyl phthalate |
| 6200 | Divin-octyl phthalate |
| 8620 | Dineseb (2-sec-butyl-4,6-dinitrophenol, DNBP) |
| 6205 | Dipherylamine |
| 8625 | Disulfoton |
| 6260 | Ethyl methanesulfonate |
| 7580 | Famphur |
| 6265 | Fluoranthene |
| 6270 | Fluorene |
| 6275 | Hexachlorobenzene |
| 4835 | Hexachlorobutadiene Hexachlorobutadiene |
| | |
| 6285 | Hexachlorocyclopentadiene |
| 4840 | Hexachloroethane |
| 6290 | Hexachlorophene |
| 6295 | Hexachloropropene |
| 6315 | Indeno(1,2,3-cd) pyrene |
| 7725 | Isodrin |
| 6320 | Isophorone |
| 6325 | Isosafrole |
| 7740 | Kepone |
| 6345 | Methapyrilene |
| 6375 | Methyl methanesulfonate |
| 7825 | Methyl parathion (Parathion, methyl) |
| 5005 | Naphthalene |
| 5875 | n-Decane |
| 5015 | Nitrobenzene |
| 6525 | n-Nitrosodiethylamine |
| 6530 | n-Nitrosodimethylamine |
| 5025 | n-Nitroso-di-n-butylamine |
| 6545 | n-Nitrosodi-n-propylamine |
| 6535 | n-Nitrosodiphenylamine |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| RDX (hexahydro-1,3,5-trinitro-1,3,5-tria | zine) |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10190008 | Nitroaromatics and Nitramines by High |
| 1010000 | Performance Liquid Chromatography (HPLC) |
| Analyte | r chomianoc Elquid Omomatography (in Eo) |
| 1,3,5-Trinitrobenzene (1,3,5-TNB) | |
| 1,3-Dinitrobenzene (1,3-DNB) | |
| 2,4,6-Trinitrotoluene (2,4,6-TNT) | |
| | |
| | |
| | |
| | |
| | |
| | |
| 4-INTOLOUGHE | |
| | (191) |
| Nitroglyderie | |
| Octahydro-1 3 5 7-tetranifro-1 3 5 7-tetra | azocine (HMX) |
| | |
| RDX (hexahydro-1,3,5-tringro-1,3,5-tria | zine) |
| | |
| 100,93007 | Total and Amenable Cyanide by Distillation and |
| | . UV-Vis |
| | <u> 44 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4</u> |
| | |
| Total oyanide | |
| 10243002 | Total and Amenable Cyanide by Distillation and |
| Value Value 1000 | UV-Vis |
| Analyte | UIV-VIS |
| | |
| | |
| | |
| 10193405 | Total and Amenable Cyanide (automated |
| | 🐧 🎑 🐧 color/metric with off-line distillation) |
| | |
| Total cyanide | |
| 10243206 | Total and Amenable Cyanide (automated |
| ,02 (020) | colorimetric with off-line distillation) |
| Analvte | colormento with on line distillation) |
| Total cyanide | |
| | T (10 11 !! 1 |
| 10194408 | Total Organic Halides |
| Analyto | |
| | A 0 A WALE |
| Total organic halides (TOX) | |
| 10195605 | Acid-Soluble and Acid-Insoluble sulfides: |
| | Distillation |
| Analvte | Distillation |
| Sulfide | |
| | |
| 10196006 | Titrimetric Procedure for Acid-Soluble and Acid- |
| | Insoluble Sulfides |
| Analyte | |
| | Analyte 1,3,5-Trinitrobenzene (1,3,5-TNB) 1,3-Dinitrobenzene (1,3-DNB) 2,4,6-Trinitrotoluene (2,4,6-TNT) 2,4-Dinitrotoluene (2,4-DNT) 2,4-Dinitrotoluene (2,6-DNT) 2-Amino-4,6-dinitrotoluene (2-am-dnt) 2-Nitrotoluene 3-Nitrotoluene 4-Amino-2 6-dinitrotolitiene (4-am-dnt) 4-Nitrotoluene Methyl-2,4,6-frinitrophenylnitramine (tel Nitroberszene Nitroglygeria Octahydro-1,3,5-7-telrantiro-1,3-5-7-tell Pentaerythritoltetranitrate RDX (hexahydro-1,3-5-telrantiro-1,3-5-tella 104,9300,7 Analyte Amenable cyanide Total cyanide Total cyanide 10243002 Analyte Total cyanide 10243206 Analyte Total cyanide 10194408 Analyte Total organic halides (TOX) 10195605 Analyte Sulfide |

ORELAP ID: TN200002
EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| NWTPH-Gx | | 90018603 | Oregon DEQ TPH Gasoline Range Organics by |
|------------------------|---------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analyte Code | Analyte | | GC/FID-PID Purge & Trap |
| 9408 | | e organics (GRO) | |
| NWTPH-HCID | | 90013200 | Oregon DEQ Total Petroleum Hydrocarbon ID |
| Analyte Code | Analyte | | |
| 2050 | Total Petroleu | m Hydrocarbons (TF | PH) |
| OA-1 | | 90013802 | lowa TPH Gx by GC/PID Purge & Trap |
| A b . d - O - d - | | / D E | |
| Analyte Code 9408 | Analyte / | e organics (GRO) | The state of the s |
| | | | 76/6 |
| OA-2 | / 42. 7 | 90014009 | lowa THH Dx |
| Analyte Code | /Analyté | | |
| 9369 | / Diesel range d | rganics (DRO) | |
| SM 2120 B 20th ED | | 20224004 | Color by Visual Comparison |
| Amalista Casta | | 100 | |
| Analyte Code 1 1605 | Analyte Color | Special Co | |
| | | | |
| SM 2130 B 20th ED | | 20042404 , | Turbidity by Nephelometric Determination |
| Analyte Code | Analyte | | And the second s |
| 2055 | Turbidity | | 16 T. C. |
| SM 2310 B 20th ED | | 20044206 | Acidity by Titration |
| Analyte Code | Analyte | | |
| 1500 | Acidity, as Ça | JO3 | |
| SM 2320 B 20th ED | | 20045209 | Alkalinity by Titration |
| Analyte Code | Analyte | | |
| 1505 | Alkalinity as C | aCO3 | |
| SM 2340 B 20th ED | | 20046202 | Hardness by calculation |
| Analista Oast | A | | - - |
| Analyte Code 1750 | Analyte Hardness | | |
| | · · · · · · · · · · · · · · · · · · · | 20040000 | |
| SM 2510 B 20th ED | , | 20048208 | Conductivity by Probe |
| Analyte Code | Analyte | | |
| 1610 | Conductivity | | |
| SM 2540 B 20th ED | | 20049007 | Total Solids |
| Analyte Code | Analyte | | |
| 1950 | Residue-total | | 1 |
| SM 2540 C 20th ED | | 20050004 | Total Dissolved Solids |
| Analyte Code | Analyte | | |
| 1955 | Residue-filtera | blo (TDS) | |

ORELAP ID: TN200002 **EPA CODE:** TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| SM 4500-NH3 G 20th ED | 20111006 | Ammonia by Automated Phenate |
|------------------------------------|-----------------------------------------------|------------------------------------------------------------------------|
| Analyte Code | Analyte | |
| 1515 | Ammonia as N | |
| SM 4500-NO3 ⁻ F 20th ED | 20116205 | Nitrate Nitrogen by Automated Cadmium Reduction Method |
| Analyte Code | Analyte | |
| 1820 | Nitrate-nitrite | |
| SM 4500-Norg C 20th ED | 20119602 | Nitrogen (Organic) by Semi-micro Kjeldahl |
| Analyte Code | Analyte Analyte | |
| 1790 1795 | Kjeldahl nitrogen Kjeldahl nitrogen utotal | |
| SM 4500-O C 19th ED | 20120201 | Dissolved Oxygen by Azide Modification |
| Analyte Code | Analyte | |
| 1880 | Oxygen, dissolved | |
| SM 4500-O G 20th ED | 20121204 | Dissolved Oxygen by Membrane Electrode |
| Analyte Code | Analyte | |
| 1880 SM 4500-P B 5 20th ED | Oxy <mark>genedissolved 23200</mark> | Phosphorus by Persulfate Digestion Method |
| A -1 (- 0 - 1-) | | |
| Analyte Code 1910 | Analyte Phospherus total | |
| | 1 1 | |
| SM 4500-P E 20th ED | 20123802 | Phosphorus by Ascorbic Acid Reduction |
| Analyte Code | Analyte 🥒 | |
| 1870 | Orthophosphate as P | |
| · 1910 | Phosphorus, total | |
| SM 4500-S2 D 20th ED | 20125400 | Sulfide by Methylene Blue Method |
| Analyte Code | Analyte | |
| 2005 | Sulfide | |
| SM 4500-SO3 B 20th ED | 20130205 | Sulfite by lodometric Method |
| Analyte Code | Analyte | |
| 2015 | Sulfite-SO3 | |
| SM 5210 B 20th ED | 20134809 | Biochemical Oxygen Demand, 5-Day (BOD5) |
| Analyte Code | Analyte | |
| 1530 | Biochemical oxygen demand | |
| 1555 | Carbonaceous BOD, CBOD | |
| SM 5220 D 20th ED | 20136407 | Chemical Oxygen Demand by Closed Reflux and Colorimetric Determination |
| Analyte Code | Analyte | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011 Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| 4455 Carbon tetrachloride A475 Chloroditromomethane A475 Chloroditromomethane A486 Chloroditromomethane A486 Chloroditromomethane A486 Chloroditromomethane A486 Chloroditromomethane A486 Cist. 2-Dichlorosthylene A487 Dichloroditromomethane (Freon-12) Dishoropylether (DIPE) Ethylenzene A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A488 Hexachlorofitization A489 Interview (DIPE) A488 Hexachlorofitization A489 Interview (DIPE) A489 I | Analyte Code | Analyte | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------|--------------------------------------------|
| ## A575 Chlorodibromomethane ## A686 Chloroform ## A505 Chloroform ## A506 Chloroform ## A506 Chloroformethane (Fren-12) ## A706 Ethylsenzene ## A506 Chloroformethane (Fren-12) ## A506 Ethylsenzene ## A506 Chloroformethane (Fren-12) | 4455 | | |
| A485 | 4475 | Chlorobenzene | |
| 4895 | 4575 | Chlorodibromomethane | |
| Head | 4485 | Chloroethane (Ethyl chloride) | |
| despt. d | 4505 | Chloroform | |
| 4880 | 4525 | Chloroprene (2-Chloro-1,3-butadiene) | |
| Head Dichiprocediture (DIPE) | 4645 | cis-1,2-Dichloroethylene | |
| 9375 | 4680 | cis-1,3-Dichloropropene | |
| ### Ar65 | 4625 | Dichlorodifluoromethane (Freon-12) | |
| 4765 | 9375 | | |
| Hexach Green Listanger | | | |
| 4900 | | | |
| A960 Methyl chromatol Transpertance | | | |
| Map | | Isopropylbenzene | |
| A975 | | Methyl chloride (Chloromethane) | |
| S245 | | Methyl-tert-butyl ether (MTBE) | |
| South | 4975 | | |
| Ad35 | | | |
| Assistant Assi | | | |
| 1 | | | |
| S250 | 3 | | |
| S255 | # | n-Propylberrzene | |
| A440 | 5250 | o-Xvlene | |
| Stylen | 5255 | | |
| 4420 terh-Busy alcohol terh-Bu | 4440 | sec Buty benzenes | |
| Add Section Test | 5100 | | |
| ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### 1875 ### | 4420 | tert-Butyl alcohol | |
| S120 | 4445 | tert-Butylbenzene | |
| Site | 5115 | Tetrachjoroethylene (Perchloroethylene | e)) |
| Side | 5120 | Tetrahydrofuran (THF) | |
| A685 | 5140 | | |
| A685 | 4700 | trans-1,2-Dichloroethylene | |
| 5170 Trichlocoethers (Thebloroethylene) 5175 Trichlocoethers (Thebloroethylene) 5235 Vinyl chloride 5260 Xylene (total) M 6200 C 20th ED 20147200 Volatile Aromatic Organic Compounds by GC/PID Purge & Trap Analyte Code 4375 Benzene 4375 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code 8295 Triffuralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDE 7365 4,4'-DDT | 4685 | | |
| Trichlorofluoromethane (Fluorotrichloromethane Frech 11) 5235 Vinyl chloride Xylene (total) M 6200 C 20th ED 20147200 Volatile Aromatic Organic Compounds by GC/PID Purge & Trap Analyte Code 4375 Benzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Analyte Code 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Analyte Code 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | 5170 | Trichlocoethere (Trichloroethylene) | |
| M 6200 C 20th ED 20147200 M 6200 C 20th ED 20147200 Analyte Code 4375 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 M 6630 C 20th ED 20153804 Analyte Code Analyte 7355 4,4'-DDD 7360 7365 4,4'-DDE 7365 4,4'-DDE 7365 4,4'-DDT | 5175 | Trichlorofluoromethane (Fluorotrichloro | methane Freen 11) |
| M 6200 C 20th ED 20147200 Volatile Aromatic Organic Compounds by GC/PID Purge & Trap Analyte Code 4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code 7355 4,4'-DDD 7360 7360 4,4'-DDE 7365 7365 4,4'-DDT | 5235 | | |
| Analyte Code Analyte 4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | 5260 | Xylene (total) | |
| Analyte Code Analyte 4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | M 6200 C 20th ED | 20147200 | Valatila Aramatia Organia Campayada by |
| Analyte Code Analyte 4375 Benzene 4765 Ethylbenzene 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | W 6200 C 2011 ED | 20147200 | |
| 4375 | Analyte Code | Analisto | GC/PID Purge & Trap |
| ## Aralyte Code ## Analyte Cod | | | |
| 5000 Methyl tert-butyl ether (MTBE) 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | | | |
| 4420 tert-Butyl alcohol 5140 Toluene 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | | • | |
| Toluene Xylene (total) M 6630 B 20th ED Analyte Code 8295 Trifluralin (Treflan) M 6630 C 20th ED Analyte Code Analyte 4,4'-DDD 7365 4,4'-DDE 7365 4,4'-DDT | | | |
| 5260 Xylene (total) M 6630 B 20th ED 20153008 Organochlorine Pesticides by Liquid/Liquid Extraction and GC/ECD Analyte Code 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | | • | |
| M 6630 B 20th ED Analyte Code 8295 Triffuralin (Treflan) M 6630 C 20th ED Analyte Code Analyte Analyte Code Analyte Analyte Analyte Analyte Analyte 7355 4,4'-DDD 7365 4,4'-DDT Alignia Code Analyte 4,4'-DDT Analyte A | | | |
| Analyte Code Analyte 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | 5260 | Xylene (total) | |
| Analyte Code 8295 Triffuralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | M 6630 B 20th ED | 20153008 | Organochlorine Pesticides by Liquid/Liquid |
| Analyte Code 8295 Trifluralin (Treflan) M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | | | |
| M 6630 C 20th ED 20153804 Organochlorine Pesticides and PCBs by Liquid/Liquid Extraction and GC/ECD 7355 7360 4,4'-DDE 7365 4,4'-DDT | | | |
| Analyte Code Analyte Liquid/Liquid Extraction and GC/ECD 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | 8295 | Trifluralin (Treflan) | |
| Analyte Code Analyte 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | M 6630 C 20th ED | 20153804 | Organochlorine Pesticides and PCBs by |
| 7355 4,4'-DDD 7360 4,4'-DDE 7365 4,4'-DDT | | | Liquid/Liquid Extraction and GC/ECD |
| 7360 4,4'-DDE 7365 4,4'-DDT | | | |
| 7365 4,4'-DDT | | | |
| , | | | |
| nitroin GSUN | | • | |
| | 7025 | Alarin | |
| | | | Page 39 of 59 |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| eference | Code | Description |
|--------------|------------------------|------------------------------------------------|
| EPA 1010 | 10116606 | Pensky-Martens Closed-Cup Method for |
| Analyte Code | Analyte | Determining Ignitability |
| 1780 | Ignitability | |
| EPA 1010A | 10234807 | Pensky-Martens Closed-Cup Method for |
| Analyte Code | Analyte | Determining Ignitability |
| 1780 | Ignitability | |
| EPA 1030 | 10117201 | Ignitability of Solids |
| Analyte Code | Analyte / | |
| 1780 | Ignitability | |
| EPA 1110 | 10118000 | Corrosivity Toward Steel |
| Analyte Code | Analyte | |
| 1615 | Corposiwity 2 | Carlos Interestados |
| EPA 1110A | 102 3 5208 | Corrosivity Toward Steel |
| Analyte Code | Analiyte | |
| 1615 | Corresionty | |
| EPA 1311 | 10118806 | Toxicity Characteristic Leaching Procedure |
| | 1011000 | regions of an actemptic Leaching Frocedure |
| Analyte Code | Analyte | |
| 308 | Extraction/Preparation | |
| EPA 1312 | 10119003 | Synthetic Precipitation Leaching Procedure |
| Analyte Code | Analyte | |
| 308 | Extraction/Preparation | |
| EPA 3051 | 10135805 | Microwave Assisted Acid Digestion of |
| | 1010000 | Sediments, Sludges, Soils, and Oils |
| Analyte Code | Analyte | |
| 308 | Extraction/Preparation | |
| EPA 3051A | 10136002 | Microwave Assisted Acid Digestion of |
| Analyte Code | Analyte | Sediments, Sludges, Soils, and Oils |
| 308 | Extraction/Preparation | |
| EPA 3052 | 10136206 | Microwave Assisted Acid Digestion of Siliceous |
| LI A 3032 | 10 130200 | and Organically Based Matrices |
| Analyte Code | Analyte | and Organically Datical Matrices |
| 308 | Extraction/Preparation | |
| EPA 3060A | 10136604 | Alkaline Digestion for Hexavalent Chromium |
| Analyte Code | Analyte | |
| 308 | Extraction/Preparation | |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

Customers. PLease verify the current accreditation standing with ORELAP.

EPA 5035A 10284807 Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples

Analyte Code Analyte

308 Extraction/Preparation

EPA 6010B 10155609 ICP - AES

Analyte Code Analyte 1000 Aluminum 1005 Antimony 1010 Arsenic 1015 Barium 1020 Beryllium 1025 Boron Cadmium 1030 Calcium Chromium Cobalt 1035 1040 1050 1055 Coppe 1070 Iron 1075 Lead Lithidin 1080 1085 Mag 1090 Mar 1100 1105 Nickel 1125 Pota 1140 Selei 1150 1155 Sodiu 1160 Strontiur 1165 Mallium 1175 Tin 1180 Titahium 1185 Vanadium 1190 Zinc **EPA 6010C** - AES

Analyte Code Analyte 1000 Aluminum 1005 Antimony 1010 Arsenic 1015 Barium 1020 Beryllium 1025 Boron 1030 Cadmium 1035 Calcium 1040 Chromium 1050 Cobalt 1055 Copper 1070 Iron 1075 Lead 1080 Lithium 1085 Magnesium 1090 Manganese 1100 Molybdenum Nickel 1105 1125 Potassium 1140 Selenium 1150 Silver

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date:

01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| | | 10166402 | Mercury by Cold Vapor Atomic Absorption |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| lvte Code | Analyte | | |
| | | | |
| | | 4047004 | Non-beleased annuity COLED |
| | | 10173601 | Non-halogenated organics using GC/FID |
| lyte Code | Analyte | | |
| 9369 | | organics (DRO) | |
| | | and a series of the series of | |
| | | ge organics (GRO) | |
| | | | a find of the second of the se |
| | // | 10305609 | Nonhalogenated Organics Using GC/FID |
| yte Code | Analyte | | |
| 9369 | Dieselhange | organics (DRO) | |
| 4750 | Ethanol | | |
| | | ge organics (GRO) | |
| 4930 | vivietnanov | | |
| | | 10174808 | Aromatic and Halogenated Volatiles by GC with |
| luta Cada | A Laborator | Carlo Carlo | PID and/or ECD Purge & Trap |
| | | Part Control of the Control | |
| 4765 | | 100 | |
| 5000 | Methyl tert bu | ityTremer/(MRBE) | A Company of the Control of the Cont |
| 5245 | m-Xylene | Maria - 12 (19 19 19 19 19 19 19 19 19 19 19 19 19 1 | |
| | | | |
| | | | |
| 5260 | | | |
| · · · · · | | <u> </u> | Organochlorine Pesticides by GC/ECD |
| | ``` | | and a second state of the second seco |
| yte Code | | | |
| | | | |
| | | The same of the sa | and the second s |
| | | | • |
| 7025 | Aldrin | | |
| 7110 | | | ohexane) |
| 7240 | | | |
| | peta-BHC (be | eta-Hexacniorocycloh och \ | exane) |
| | | (C) (.) | |
| | | (Daconil) | |
| 7105 | delta-BHC | <u> </u> | |
| 7470 | Dieldrin | | · |
| 7510 | Endosulfan I | | |
| | | ulfata | |
| | | uırate | |
| | | rde | · |
| 7535 | Endrin ketone | | |
| 7575 | Etridiazole | | |
| 1010 | | | |
| 7120 | - | (Lindane, gamma-He | exachlorocyclonexanE) |
| 7120 7245 | gamma-Chlor | | exactiorocyclonexanE) |
| 7120 | - | rdane | exactiorocyclonexanE) |
| | 9369 4750 9408 4930 Yte Code 9369 4750 9408 4930 Yte Code 9369 4750 9408 4930 Yte Code 7355 5250 5255 5140 5260 Yte Code 7355 7360 7365 7005 7025 7110 7240 7115 7250 7265 7310 7105 7470 7515 7520 7540 7530 | 1095 Mercury 1095 Mercury 1095 Mercury 1096 Analyte 9369 Ethanol 9408 Gasoline range 4930 Methanol 1096 Me | 10173601 10173601 10173601 10173601 10173601 10173601 10173601 10173601 10173609 10173609 10173609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 10305609 |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

Customers. PLease verify the current accreditation standing with ORELAP.

| Analyte Code | Analyte | |
|--------------|-------------------------|--|
| 8900 | Aroclor-1248 (PCB-1248) | |
| 8905 | Aroclor-1254 (PCB-1254) | |
| 8910 | Aroclor-1260 (PCB-1260) | |

EPA 8141A

10182000

Organophosphorous Pesticides by GC/NPD

| Analyte Code | Analyte |
|--------------|-------------------------------------------------|
| 7075 | Azinphos-methyl (Guthion) |
| 7125 | Bolstar (Sulprofos) |
| 7300 | Chlorpyrifos |
| 7315 | Coumaphos |
| 7395 | Demeton-o |
| 7385 | Demeton-s |
| 7410 | Diazingh : |
| 8610 | Dichlorovos*(DDVP Dichlorvos) |
| 7475 | Dimethoate |
| 8625 | Disulfoton/ |
| 7550 | /EPN |
| 7570 | Ethoprop |
| 7600 | Fensulfothion |
| 7605 | Fentilion |
| 7770 | Malathion |
| 7785 | Merphos |
| 7825 | Methyl parathion 42 arathronomothy) |
| 7850 | Mevinonos |
| 7905 | Naled |
| 7985 | Phoraie |
| 8110 | Ronnel |
| 8155 | Sulfotepp |
| 8200 | Tetrachlorvigphos (Stirophos, Gardona) Z-isomer |
| 8210 | Tetraethy pyrophosphate (TEPP) |
| 8245 | Takuthion (Prothiophos) |
| 8275 | Trichloronate |

EPA 8141B

10182204 Organophosphorous Pesticides by GC/NPD

| | | To to 1225 A supplied by the supplied of the supplied by |
|---|--------------|----------------------------------------------------------|
| 1 | Inalyte Code | Analyte H () R |
| | 7075 | Azinphos-methyl (Guthion) |
| | 7125 | Bolstar (Sulprofos) |
| | 7300 | Chlorpyrifos |
| | 7315 | Coumaphos |
| | 7395 | Demeton-o |
| | 7385 | Demeton-s |
| | 7410 | Diazinon |
| | 8610 | Dichlorovos (DDVP, Dichlorvos) |
| | 7475 | Dimethoate |
| | 8625 | Disulfoton |
| | 7550 | EPN . |
| | 7570 | Ethoprop |
| | 7600 | Fensulfothion |
| | 7605 | Fenthion |
| | 7770 | Malathion |
| | 7785 | Merphos |
| | 7825 | Methyl parathion (Parathion, methyl) |
| | 7850 | Mevinphos |
| | 7905 | Naled |
| | 7985 | Phorate |
| | 8110 | Ronnel |
| | 8155 | Sulfotepp |
| | 8200 | Tetrachlorvinphos (Stirophos, Gardona) Z-isomer |
| | 8210 | Tetraethyl pyrophosphate (TEPP) |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte |
|--------------|------------------------------------------------------|
| 4395 | Bromodichloromethane |
| 4397 | Bromoethane (Ethyl Bromide) |
| 4400 | Bromoform |
| 4450 | Carbon disulfide |
| 4455 | Carbon tetrachloride |
| 4475 | Chlorobenzene |
| 4575 | Chlorodibromomethane |
| 4485 | Chloroethane (Ethyl chloride) |
| 4505 | Chloroform |
| 4525 | Chloroprene (2-Chloro-1.3-butadiene) |
| 4645 | cis 1.2 Dichloroothydag |
| 4680 | cis-1,3-Dichlorograpene |
| 4600 | cis-1,4-Dignioro-2-butene |
| 4555 | Cyclohexane . |
| 4560 | Cyclohexamone |
| 4580 | Dibromochloropropane |
| 4595 | Dibromomethane (Methyllene bromide) |
| 4625 | Dichloropifluoromethane (Freen-12) |
| | Diethylether |
| 4725 | |
| 9375 | Di-isopropylether (DIRE) |
| 4750 | Ethaniol Ethaniol |
| 4755 | Ethyl acetatel 1- |
| 4810 | Ethyl methiadrylate |
| 4765 | EthVlb <mark>erizene</mark> |
| 4770 | Ethyl-t-butylether (ERBE) (2-Ethoxy 2-methylpropane) |
| 4835 | Hexachiorobutadiene |
| 4840 | Hexagnioroethaper 🔻 |
| 4870 | lodomethane (Methyl iodide) |
| 4875 | Isobuty alcohol (2-Methyl-1-propanol) |
| 4895 | Isopropyl alcohol (2-Propanol, Isopropanol) |
| 4900 | sopropylbenzene |
| 4925 | Methacrylonitrile. |
| 4940 | Methyl acetate |
| 4945 | Methylvacrylate |
| 4950 | Methyl bromide (Bromomethane) |
| 4960 | Methyl chloride (Chloromethane) |
| 4990 | Methyl methacrylate |
| 5000 | Methyl tert-butyl ether (MTBE) |
| 4965 | Methylcyclohexane |
| 4975 | Methylene chloride (Dichloromethane) |
| 5245 | m-Xylene |
| 5005 | Naphthalene |
| 4425 | n-Butyi alcohol (1-Butanol, n-Butanol) |
| 4435 | n-Butylbenzene |
| 5025 | n-Nitroso-di-n-butylamine |
| | • |
| 5090 5350 | n-Propylbenzene |
| 5250 | o-Xylene |
| 5035 | Pentachloroethane |
| 5080 | Propionitrile (Ethyl cyanide) |
| 5255 | p-Xylene |
| 4440 | sec-Butylbenzene |
| 5100 | Styrene |
| 4370 | T-amylmethylether (TAME) |
| 303 | tert-amyl alcohol |
| 4420 | tert-Butyl alcohol |
| 4445 | tert-Butylbenzene |
| 304 | tert-butyl-formate |
| 5115 | Tetrachloroethylene (Perchloroethylene) |
| 5120 | Tetrahydrofuran (THF) |
| 5140 | Toluene |
| | |

ORELAP ID: TN200002

EPA CODE: TN00003 **Certificate:** TN200002 - 008

Environmental Science Corporation

01/16/2011

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte |
|--------------|-----------------------------------------------------------|
| 4525 | Chloroprene (2-Chloro-1,3-butadiene) |
| 4645 | cis-1,2-Dichloroethylene |
| 4680 | cis-1,3-Dichloropropene |
| 4600 | cis-1,4-Dichloro-2-butene |
| 4555 | Cyclohexane |
| 4560 | Cyclohexanone |
| 4580 | Dibromochloropropane |
| | · · |
| 4595 | Dibromomethane (Methylene bromide) |
| 4625 | Dichlorodifluoromethane (Freon-12) |
| 4725 | Diethyl ether |
| 9375 | Di-isopropylether (DIPE) |
| 4750 | Ethanol |
| 4755 | Ethyl acetate |
| 4810 | Ethyl methacrylate |
| 4765 | Ethylbenzene |
| 4770 | Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane) |
| 4835 | Hexachlorobutadiene |
| 4840 | Héxachloroethane |
| 4870 | lodomethane (Methylliodide) |
| 4875 | Isobutyl alcohol (2-Methyl-1-propans) |
| 4895 | Isopropyl alcohol (2-Methylet-brogatise) |
| €. | |
| 4900 | Isoprativibentiene |
| 4925 | Methae woritrie |
| 4940 | Methy acetate |
| 4945 | Methyl acrylate |
| 4950 | Methy bromide (Bromemethane) |
| 4960 | Methylichloride (Chloromethane) |
| 4990 | Methylmethacrylate |
| 5000 | Methylytert-butyl ether (MTBE) |
| 4965 | Methylcyclohexane |
| 4975 | Methylene chloride (Dichloromethane) |
| 5245 | m/Xylene |
| 5005 | Naphthalene |
| 4425 | n-Butyl alcohol (1-Butanol, n-Butanol) |
| 4435 | n-Butylbenzene |
| 5015 | Nitrobenzene |
| 5025 | n-Nitroso-di-n-butylamine |
| 5090 | |
| | n-Propylbenzene |
| 5250 | o-Xylene |
| 5035 | Pentachloroethane |
| 5080 | Propionitrile (Ethyl cyanide) |
| 5255 | p-Xylene |
| 6685 | Safrole |
| 4440 | sec-Butylbenzene |
| 5100 | Styrene |
| 4370 | T-amylmethylether (TAME) |
| 4420 | tert-Butyl alcohol |
| 4445 | tert-Butylbenzene |
| 5115 | Tetrachloroethylene (Perchloroethylene) |
| 5120 | Tetrahydrofuran (THF) |
| 5140 | Toluene |
| | |
| 4700 | trans-1,2-Dichloroethylene |
| 4685 | trans-1,3-Dichloropropylene |
| 4605 | trans-1,4-Dichloro-2-butene |
| 5170 | Trichloroethene (Trichloroethylene) |
| 5175 | Trichlorofluoromethane (Fluorotrichloromethane, Freon 11) |
| 5225 | Vinyl acetate |
| 5235 | Vinyl chloride |
| | Xylene (total) |

ORELAP ID: TN200002

EPA CODE: TN00003 **Certificate:** TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte |
|--------------|--------------------------------------------------------------|
| 5595 | Benzidine |
| 5575 | Benzo(a)anthracene |
| 5580 | Benzo(a)pyrene |
| 5590 | Benzo(g,h,i)perylene |
| 9309 | Benzo(j)fluoranthene |
| 5600 | Benzo(k)fluoranthene |
| 5585 | Benzo[b]fluoranthene |
| 5610 | Benzoic acid |
| 5625 | Benzotrichloride |
| 5630 | Benzyl alcohol |
| 5635 | |
| 5760 | Benzyl chloride bis(2-Chloroethoxy)methane |
| | |
| 5765 | bis(2-Chloroethyl) ether |
| 5780 | bis(2-Chilorofsopropyl) effici |
| 5670 | Butyl benzyliphthalate |
| 5680 | Carbazole |
| 7260 | € hlorobenzilate |
| 5855 | Chrysene |
| 6065 | Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate DEHP) |
| 7405 | Diallate |
| 9354 | Dibenz(a, h) acridine |
| 5900 | Dibenzia () actidine |
| 5895 | Dibenz(alh) anthuacener |
| 9348 | Dibenzo(a, h) pytenetic |
| 9351 | Dibenzo (a; i) pyjene |
| 5890 | Dibenzo(a,e) pyseise |
| 5905 | Dibenzoturan |
| 6070 | Diethyl phthalate |
| 7475 | Dimethoate |
| 6135 | Dimethy phthalate |
| 5925 | |
| | Di-n-buty/phthalate |
| 6200 | Di-n-octyl phthalate |
| 8620 | Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP) |
| 6205 | Dipherylamine |
| 8625 | Disulfoton |
| 6260 | Ethyl methanesulfonate |
| 7580 | Famphur |
| 6265 | Fluoranthene |
| 6270 | Fluorene |
| 6275 | Hexachlorobenzene |
| 4835 | Hexachlorobutadiene |
| 6285 | Hexachlorocyclopentadiene |
| 4840 | Hexachloroethane |
| 6290 | Hexachlorophene |
| 6295 | Hexachloropropene |
| 6315 | Indeno(1,2,3-cd) pyrene |
| 7725 | Isodrin |
| 6320 | Isophorone |
| 6325 | Isosafrole |
| 7740 | Kepone |
| 6345 | · |
| | Methapyrilene Methal methapasulfonata |
| 6375 | Methyl methanesulfonate |
| 7825 | Methyl parathion (Parathion, methyl) |
| 5005 | Naphthalene |
| 5015 | Nitrobenzene |
| 6525 | n-Nitrosodiethylamine |
| 6530 | n-Nitrosodimethylamine |
| 5025 | n-Nitroso-di-n-butylamine |
| 6545 | n-Nitrosodi-n-propylamine |
| 6535 | n-Nitrosodiphenylamine |
| 6550 | n-Nitrosomethylethalamine |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte |
|--------------|---------------------------------------------------------------|
| 5660 | 4-Bromophenyl phenyl ether |
| 5700 | 4-Chloro-3-methylphenol |
| 5745 | 4-Chloroaniline |
| 5825 | 4-Chlorophenyl phenylether |
| 6105 | 4-Dimethyl aminoazobenzene |
| 6410 | 4-Methylphenol (p-Cresol) |
| 6470 | 4-Nitroaniline |
| 6500 | 4-Nitrophenol |
| 6510 | 4-Nitroguinoline 1-oxide |
| 6570 | 5-Nitro-o-toluidine |
| 6115 | 7,12-Dimethylbenz(a) anthraceire |
| 9417 | |
| 6125 | 7h-Dibenzo(c, g) carbazole |
| | a-a-Dimethylphenethylamine |
| 5500 | Acenaphthene |
| 5505 | Acenaphthylene |
| 5510 | Acetophenone |
| 5545 | Aniline |
| 5555 | Anthracene |
| 5560 | Aramite |
| 5565 | Benzal chloride |
| 5595 | Benzidine |
| 5575 | Benzarahharene |
| 5580 | Benzokarpyrene |
| 5590 | Benzo g h,i)pery ene |
| 9309 | Benzontiuorantiiene |
| 5600 | Benzoakifluoranthenens |
| 5585 | Benzo bifluorant ene |
| 5610 | Benzorc acid |
| 5625 | Benzottichloride |
| 5630 | Benzyl alcohol |
| 5635 | Benzyl chipride |
| 5760 | bis(2-Chloroethoxy)methane |
| 5765 | bis(2-Chloroethyl) ether |
| 5780 | bis(2-Chloroisopropyl) ether |
| 5670 | Butyl benzyl phthalate |
| 5680 | Carbazole |
| 7260 | |
| 5855 | Chlorobenzilate |
| | Chrysene |
| 6065 | Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP) |
| 7405 | Diallate Dihama(a, b) assisting |
| 9354 | Dibenz(a, h) acridine |
| 5900 | Dibenz(a, j) acridine |
| 5895 | Dibenz(a,h) anthracene |
| 9348 | Dibenzo(a, h) pyrene |
| 9351 | Dibenzo(a, i) pyrene |
| 5890 | Dibenzo(a,e) pyrene |
| 5905 | Dibenzofuran |
| 6070 | Diethyl phthalate |
| 7475 | Dimethoate |
| 6135 | Dimethyl phthalate |
| 5925 | Di-n-butyl phthalate |
| 6200 | Di-n-octyl phthalate |
| 8620 | Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP) |
| 6205 | Diphenylamine |
| 8625 | Disulfoton |
| 6260 | Ethyl methanesulfonate |
| 7580 | Famphur |
| 6265 | Fluoranthene |
| 6270 | Fluorene |
| | |
| 6275 4835 | Hexachlorobenzene Hexachlorobutadiene |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| EPA 8330 | 10189807 | Nitroaromatics and Nitramines by HPLC/UV-VIS |
|--------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analyte Code | Analyte | |
| 6885 | 1,3,5-Trinitrobenzene (1,3,5-TNB) | |
| 6160 | 1,3-Dinitrobenzene (1,3-DNB) | |
| 9651 | 2,4,6-Trinitrotoluene (2,4,6-TNT) | |
| 6185 | 2,4-Dinitrotoluene (2,4-DNT) | |
| 6190 | 2,6-Dinitrotoluene (2,6-DNT) | |
| 9303 | 2-Amino-4,6-dinitrotoluene (2-am-dnt) | |
| 6462 | 2-Nitroguanidine | |
| 9507 | 2-Nitrotoluene | |
| 9510 9306 | 3-Nitrotoluene 4-Amino-2,6-dinitrotoluene (4-am <u>-dnt)</u> | |
| 9513 | 4-Artifilo-2,04diminotoldeile (4-arti-drift) | |
| 6415 | Methyl 2,4 6-trinitrophenylhitramine (tetry) | A THE STATE OF THE |
| 5015 | Nitrobenzene | |
| 6485 | Nitrogliyserip | |
| 9522 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetraz | zocine (HMX) |
| 9558 | Pentaerythritoitetranitrate | |
| 9432 | RDX (hexahydro-1,3,5 trinitro 4,3,5 thazir | ie) |
| EPA 8330A | 10190008 | Nitroaromatics and Nitramines by High |
| EFA 6330A | 10.190000 | |
| Analyte Code | Analyte | Performance Liquid Chromatography (HPLC) |
| 6885 | 1,3,5-Prinitropenzers (4,352TNB) | |
| 6160 | 1,3-Diritiobenzene (# 3-DNB) | |
| 9651 | 2,4,6-Illimitrotolue se (2,4,6-IINIII) | |
| 6185 | 2,4 Dimitrotoluerie (2,4 DNP) | |
| 6190 | 2,6-Dinitrotoluene (2,6-DNT) | |
| 9303 | 2-Amino-4,6-dinitrotoluene (2-am-dnt) | |
| 9507 | 2-Nitrotoiuene | |
| 9510 | 3 Nitrotoluene | |
| 9306 | 4-Amino-2,6-dinitrotoluene (4-am-dnt) | |
| 9513 | 4-Nitrotoluene | |
| 6415 | Methyl-2,4,6-trinitrophenylnitramine (tetryl | |
| 5015 | Nitrobenzene / | |
| 6485 | Nitroglycerin | |
| 9522 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetraz | ooine (HMX) |
| 9558 | Pentaerythritoltetranitrate | |
| 9432 | RDX (hexahydro-1,3,5-trinitro-1,3,5-triazir | ne) |
| EPA 9010B | 10193007 | Total and Amenable Cyanide by Distillation and |
| Analyte Code | Analyte | UV-Vis |
| 1510 | Amenable cyanide | *************************************** |
| 1645 | Total cyanide | |
| EPA 9010C | 10243002 | Total and Amenable Cyanide by Distillation and |
| EPA 9010C | 10243002 | UV-Vis |
| Analyte Code | Analyte | |
| 1510 | Amenable cyanide | |
| 1645 | Total cyanide | · |
| EPA 9012A | 10193405 | Total and Amenable Cyanide (automated |
| | | colorimetric with off-line distillation) |
| Analyte Code | Analyte | |
| 1645 | Total cyanide | |
| EDA 0012D | 10242206 | Total and Amonable Cyanide (outemated |
| EPA 9012B | 10243206 | Total and Amenable Cyanide (automated |
| | | |
| Analyte Code | Analyte | colorimetric with off-line distillation) |

ORELAP ID: TN200002

EPA CODE: TN00003

Certificate: TN200002 - 008

Environmental Science Corporation

12065 Lebanon Road

Mt. Juliet

TN 37122

Issue Date: 01/16/2011

Expiration Date: 01/15/2012

As of 01/16/2011

this list supercedes all previous lists for this certificate number.

| Analyte Code | Analyte | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1835 | Nitrite | |
| 1870 2000 | Orthophosphate as P Sulfate | |
| EPA 9060 | 10200201 | Total Organic Carbon |
| Analysia Onda | Aughsta | |
| Analyte Code 2040 | Analyte Total organic carbon | |
| EPA 9060A | 10244801 | Total Organic Carbon |
| Amaluta Oada | Analyte A E | |
| Analyte Code 2040 | Analyte Total organic carbon | |
| | | Olympia San Fritzentian Mathed for studies and |
| EPA 9071B | 10201602 | Oil and Grease Extraction Method for sludge and sediment samples |
| Analyte Code | Analyte | "Sournout Samples |
| 1860 | Oil & Grease | |
| EPA 9095 | 10204009 | Paint Filter Liquids Test |
| Analyte Code | A CHINA CONTRACTOR OF THE CONT | and the second s |
| 308 | Ariallyte Extraction/Preparation | |
| TDA 0005A | 10204203 | Paint Filter Liquids Test |
| EPA 9095A | 1020-203 | Paint Pitter induitis Test |
| Analyte Code | Analyte | |
| 308 | Extraction/Preparation | |
| NWTPH-Dx | 90018409 | Oregon DEQ TPH Diesel Range |
| Analyte Code | Anglisto | |
| 9369 | Analyte Diesel range organics (DRO) | |
| NWTPH-Gx | 90018603 | Oleven REO TDH Capaline Panga Organica by |
| NVVIPH-GX | 90019003 | Oregon DEQ TPH Gasoline Range Organics by GC/FID-PID Purge & Trap |
| Analyte Code | Analyte | GGA 15 1 15 1 dige a 11ap |
| 9408 | Gasoline range organics (GRO) | |
| NWTPH-HCID | 90013200 | Oregon DEQ Total Petroleum Hydrocarbon ID |
| Analyte Code | Analyte | |
| 2050 | Total Petroleum Hydrocarbons (TPH) | • |
| OA-1 | 90013802 | lowa TPH Gx by GC/PID Purge & Trap |
| Analyte Code | Analyte | |
| 9408 | Gasoline range organics (GRO) | |
| OA-2 | 90014009 | lowa TPH Dx |
| | | |
| Analyte Code 9369 | Analyte Diesel range organics (DRO) | |
| | | T. (1. F) |
| SM 2540 G 20th ED | 20005258 | Total, Fixed, and Volatile Solids in Solid and |
| Analyte Code | Analyte | Semisolid Samples |
| 1725 | Total, fixed, and volatile residue | |



YOUR LAB OF CHOICE

12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

Report Summary

Tuesday May 10, 2011

Report Number: L513596 Samples Received: 04/29/11 Client Project: 1843-00

Description: Taylor Lumber

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487 GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140 NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233 AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A, TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-01

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-15S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 11:45

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | 12. | 0.33 | 1.0 | uq/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 34.6 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 24.0 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 80.9 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 95.6 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 83.2 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 97.7 | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970 May 10, 2011

Site ID :

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-02

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-13S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 13:00

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | Ū | 0.33 | 1.0 | uq/l | L2 | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 0.940 | | | % Rec. | J2 | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 0.510 | | | % Rec. | J2 | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 73.9 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 91.9 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 24.8 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 108. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-03

Project #: 1843-00

May 10, 2011

: Date Received April 29, 2011

Description Taylor Lumber

Site ID : MW-12S Sample ID

Collection Date : Collected By Michael Whitson 04/26/11 14:10

RDL Units Qualifier Method Date Dil. Parameter Result MDL Acid Extractables Pentachlorophenol Surrogate Recovery U 0.33 1.0 8270C 05/04/11 ug/l 1 2-Fluorophenol 17.7 % Rec. 8270C 05/04/11 Phenol-d5 14.5 % Rec. 8270C 05/04/11 Nitrobenzene-d5 69.8 % Rec. 8270C 05/04/11 2-Fluorobiphenyl 82.4 % Rec. 8270C 05/04/11 1 2,4,6-Tribromophenol 94.9 % Rec. 8270C 05/04/11 1 8270C p-Terphenyl-d14 105. 05/04/11 1 % Rec.

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Site ID :

ESC Sample # : L513596-04

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID MW-06S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 16:20

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | uq/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 5, | | | | |
| 2-Fluorophenol | 23.3 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 17.5 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 69.8 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 83.0 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 58.0 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 112. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Site ID :

ESC Sample # : L513596-05

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-06S DUP

Collected By : Michael Whitson Collection Date : 04/26/11 16:20

Project #: 1843-00

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | _ | | | | |
| 2-Fluorophenol | 21.1 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 16.8 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 71.3 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 89.4 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 48.8 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 111. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-06

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : PZ-102

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 08:50

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/04/11 | 1 |
| Surrogate Recovery | | | | _ | | | | |
| 2-Fluorophenol | 31.7 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Phenol-d5 | 21.9 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Nitrobenzene-d5 | 65.8 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2-Fluorobiphenyl | 70.7 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2,4,6-Tribromophenol | 82.1 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| p-Terphenyl-d14 | 72.4 | | | % Rec. | | 8270C | 05/04/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 10, 2011

Site ID :

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-07

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-103S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 09:50

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | 1.6 | 0.33 | 1.0 | uq/l | | 8270C | 05/04/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 15.6 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Phenol-d5 | 11.1 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Nitrobenzene-d5 | 59.0 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2-Fluorobiphenyl | 71.6 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2,4,6-Tribromophenol | 46.2 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| p-Terphenyl-d14 | 86.5 | | | % Rec. | | 8270C | 05/04/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

Sample ID

May 10, 2011

ESC Sample # : L513596-08

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : : MW-20S

Collected By : Michael Whitson Collection Date : 04/27/11 10:45

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | uq/l | | 8270C | 05/03/11 | 1 |
| Surrogate Recovery | | | | 5, | | | | |
| 2-Fluorophenol | 30.6 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| Phenol-d5 | 25.2 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| Nitrobenzene-d5 | 74.0 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| 2-Fluorobiphenyl | 80.4 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| 2,4,6-Tribromophenol | 62.5 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| p-Terphenyl-d14 | 96.3 | | | % Rec. | | 8270C | 05/03/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP)

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 10, 2011

Site ID :

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-09

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-19S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 11:50

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/03/11 | 1 |
| Surrogate Recovery | | | | _ | | | | |
| 2-Fluorophenol | 26.6 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| Phenol-d5 | 20.4 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| Nitrobenzene-d5 | 77.8 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| 2-Fluorobiphenyl | 83.2 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| 2,4,6-Tribromophenol | 71.5 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| p-Terphenyl-d14 | 102. | | | % Rec. | | 8270C | 05/03/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-10

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : PZ-101 Site ID :

May 10, 2011

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 13:00

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/03/11 | 1 |
| Surrogate Recovery | | | | _ | | | | |
| 2-Fluorophenol | 30.4 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| Phenol-d5 | 22.6 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| Nitrobenzene-d5 | 72.2 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| 2-Fluorobiphenyl | 78.2 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| 2,4,6-Tribromophenol | 77.2 | | | % Rec. | | 8270C | 05/03/11 | 1 |
| p-Terphenyl-d14 | 94.7 | | | % Rec. | | 8270C | 05/03/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Site ID :

ESC Sample # : L513596-11

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

: MW-1S Sample ID

Collected By : Michael Whitson Collection Date : 04/27/11 14:00

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/09/11 | 1 |
| Surrogate Recovery | | | | _ | | | | |
| 2-Fluorophenol | 7.30 | | | % Rec. | Ј2 | 8270C | 05/09/11 | 1 |
| Phenol-d5 | 4.80 | | | % Rec. | Ј2 | 8270C | 05/09/11 | 1 |
| Nitrobenzene-d5 | 61.1 | | | % Rec. | | 8270C | 05/09/11 | 1 |
| 2-Fluorobiphenyl | 73.6 | | | % Rec. | | 8270C | 05/09/11 | 1 |
| 2,4,6-Tribromophenol | 27.0 | | | % Rec. | | 8270C | 05/09/11 | 1 |
| p-Terphenyl-d14 | 91.2 | | | % Rec. | | 8270C | 05/09/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

. Reported: 05/10/11 10:24 Revised: 05/10/11 14:57 L513596-11 (SV8270PCP) - Previous run also had low SURR recovery. Matrix effect.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-12

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-11S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 15:00

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|------------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | 0.87 | 0.33 | 1.0 | ug/l | J | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | J . | | | | |
| 2-Fluorophenol | 21.2 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 15.6 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 76.0 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 89.6 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 58.1 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 113. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 10, 2011

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-13

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : Sample ID : MW-25S

Collected By : Michael Whitson Collection Date : 04/27/11 16:10

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|-----|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | 230 | 6.7 | 20. | ug/l | | 8270C | 05/09/11 | 20 |
| Surrogate Recovery | | | | _ | | | | |
| 2-Fluorophenol | 0.00 | | | % Rec. | J7 | 8270C | 05/09/11 | 20 |
| Phenol-d5 | 0.00 | | | % Rec. | J7 | 8270C | 05/09/11 | 20 |
| Nitrobenzene-d5 | 0.00 | | | % Rec. | J7 | 8270C | 05/09/11 | 20 |
| 2-Fluorobiphenyl | 0.00 | | | % Rec. | J7 | 8270C | 05/09/11 | 20 |
| 2,4,6-Tribromophenol | 0.00 | | | % Rec. | J7 | 8270C | 05/09/11 | 20 |
| p-Terphenyl-d14 | 0.00 | | | % Rec. | J7 | 8270C | 05/09/11 | 20 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 10, 2011

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-14

Project #: 1843-00

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : Sample ID RW-01

Collected By : Michael Whitson Collection Date : 04/27/11 17:25

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | _ | | | | |
| 2-Fluorophenol | 38.9 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 28.0 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 74.6 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 87.3 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 86.2 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 117. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-15

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID : MW-10S

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/27/11 17:45

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | uq/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 48.5 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 37.1 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 77.4 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 88.9 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 73.7 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 109. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID :

Sample ID : MW-24S

Project #: 1843-00

ESC Sample # : L513596-16

Collected By : Michael Whitson Collection Date : 04/27/11 18:35

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/04/11 | 1 |
| Surrogate Recovery | | | | | | | | |
| 2-Fluorophenol | 29.2 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Phenol-d5 | 21.9 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Nitrobenzene-d5 | 63.6 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2-Fluorobiphenyl | 77.5 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2,4,6-Tribromophenol | 100. | | | % Rec. | | 8270C | 05/04/11 | 1 |
| p-Terphenyl-d14 | 102. | | | % Rec. | | 8270C | 05/04/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-17

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

Sample ID PZ105

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 10:15

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | uq/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 29.5 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 18.8 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 69.7 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 82.8 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 80.9 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 98.1 | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

Sample ID

ESC Sample # : L513596-18

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : MW-06D

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 15:10

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | ug/l | | 8270C | 05/04/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 26.3 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Phenol-d5 | 21.1 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| Nitrobenzene-d5 | 67.6 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2-Fluorobiphenyl | 81.1 | | | % Rec. | | 8270C | 05/04/11 | 1 |
| 2,4,6-Tribromophenol | 107. | | | % Rec. | | 8270C | 05/04/11 | 1 |
| p-Terphenyl-d14 | 100. | | | % Rec. | | 8270C | 05/04/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-19

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : Sample ID MW-9S Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 17:50

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | U | 0.33 | 1.0 | uq/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 34.2 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 23.0 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 79.4 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 95.2 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 90.9 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 118. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

Sample ID

ESC Sample # : L513596-20

Project #: 1843-00

May 10, 2011

Date Received : April 29, 2011 Description : Taylor Lumber

Site ID : : MW-16S

Collected By : Michael Whitson Collection Date : 04/26/11 08:00

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | 11. | 0.33 | 1.0 | uq/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 5, | | | | |
| 2-Fluorophenol | 20.7 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 15.7 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 79.0 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 96.6 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 50.6 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 113. | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Stephanie Bosze Oregon Dept. of Env. Quality - ODEQ 3150 NW 229th St., Suite 150 Hillsboro, OR 97124

ESC Sample # : L513596-21

May 10, 2011

Site ID :

Date Received : April 29, 2011 Description : Taylor Lumber

: MW-16S DUP Sample ID

Project #: 1843-00

Collected By : Michael Whitson Collection Date : 04/26/11 08:00

| Parameter | Result | MDL | RDL | Units | Qualifier | Method | Date | Dil. |
|----------------------|--------|------|-----|--------|-----------|--------|----------|------|
| Acid Extractables | | | | | | | | |
| Pentachlorophenol | 11. | 0.33 | 1.0 | uq/l | | 8270C | 05/02/11 | 1 |
| Surrogate Recovery | | | | 3. | | | | |
| 2-Fluorophenol | 16.2 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Phenol-d5 | 12.4 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| Nitrobenzene-d5 | 69.4 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2-Fluorobiphenyl | 81.4 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| 2,4,6-Tribromophenol | 42.2 | | | % Rec. | | 8270C | 05/02/11 | 1 |
| p-Terphenyl-d14 | 97.8 | | | % Rec. | | 8270C | 05/02/11 | 1 |

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL MDL = Minimum Detection Limit = LOD = SQL(TRRP) Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Attachment A List of Analytes with QC Qualifiers

| Sample | Work | Sample | | Run | |
|------------|----------|--------|----------------------|----------|-----------|
| Number | Group | Type | Analyte | ID | Qualifier |
| | | | | | |
| L513596-02 | WG533611 | SAMP | Pentachlorophenol | R1672209 | L2 |
| | WG533611 | SAMP | 2-Fluorophenol | R1672209 | J2 |
| | WG533611 | SAMP | Phenol-d5 | R1672209 | J2 |
| L513596-11 | WG534152 | SAMP | 2-Fluorophenol | R1676731 | J2 |
| | WG534152 | SAMP | Phenol-d5 | R1676731 | J2 |
| L513596-12 | WG533677 | SAMP | Pentachlorophenol | R1670132 | J |
| L513596-13 | WG533677 | SAMP | 2-Fluorophenol | R1670132 | J7 |
| | WG533677 | SAMP | Phenol-d5 | R1670132 | J7 |
| | WG533677 | SAMP | Nitrobenzene-d5 | R1670132 | J7 |
| | WG533677 | SAMP | 2-Fluorobiphenyl | R1670132 | J7 |
| | WG533677 | SAMP | 2,4,6-Tribromophenol | R1670132 | J7 |
| | WG533677 | SAMP | p-Terphenyl-d14 | R1670132 | J7 |

Attachment B Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration. |
| J2 | Surrogate recovery limits have been exceeded; values are outside lower control limits |
| J7 | Surrogate recovery limits cannot be evaluated; surrogates were diluted out |
| L2 | (ESC) The associated surrogate compound falls below 10%. The data should be used with caution. A re-extraction was not possible due to limited sample volume. |

Oualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by
 Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed 05/10/11 at 14:57:38

TSR Signing Reports: 358 R5 - Desired TAT

5035 terracore kits needed for ALL soil VOCs. Log p-key under project manager's name if one is not already created with the specific project name. Contract # 8903.

```
Sample: L513596-01 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-02 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                  jw
Sample: L513596-03 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-04 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
MS/MSD this Sample. Reporting PCP only. PCP needed at 1 ug/l.
                                                                         jw
Sample: L513596-05 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 iw
Sample: L513596-06 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                  jw
Sample: L513596-07 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-08 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-09 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-10 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-11 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
Sample: L513596-12 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-13 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                  τw
Sample: L513596-14 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-15 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-16 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
                       PCP needed at 1 ug/l. jw
Reporting PCP only. PCP needed at 1 ug/l. jw Sample: L513596-17 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-18 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                        PCP needed at 1 ug/l.
                                                 jw
Sample: L513596-19 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l. jw
Sample: L513596-20 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only. PCP needed at 1 ug/l. jw
Sample: L513596-21 Account: OREGONDEQ Received: 04/29/11 08:30 Due Date: 05/06/11 00:00 RPT Date: 05/10/11 10:24
Reporting PCP only.
                       PCP needed at 1 ug/l.
                                                 jw
```



Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Hillsboro, OR 97124

12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report Level II

L513596

May 10, 2011

| | | Laboratory | Blank | | | |
|----------------------|--------|-----------------------------|------------------------|--------|----------|--------------|
| Analyte | Result | Units | % Rec | Limit | Batch | Date Analyze |
| Pentachlorophenol | < .001 | mg/l | | | WCE22677 | 05/02/11 12: |
| | ١٠٠٠ > | _ | 54.14 | 10-148 | | |
| 2,4,6-Tribromophenol | | mg/l | 86.28 | 26-122 | | 05/02/11 12: |
| 2-Fluorobiphenyl | | mg/1 | | | | 05/02/11 12: |
| 2-Fluorophenol | | mg/1 | 44.37 | 10-87 | | 05/02/11 12: |
| Nitrobenzene-d5 | | mg/1 | 82.94 | 12-120 | | 05/02/11 12: |
| Phenol-d5 | | mg/l | 34.50 | 10-67 | | 05/02/11 12: |
| o-Terphenyl-d14 | | mg/l | 121.8 | 34-149 | WG533677 | 05/02/11 12: |
| Pentachlorophenol | < .001 | mg/l | | | WG533611 | 05/02/11 13: |
| 2,4,6-Tribromophenol | | mg/l | 91.50 | 10-148 | WG533611 | 05/02/11 13: |
| -Fluorobiphenyl | | mg/l | 86.49 | 26-122 | WG533611 | 05/02/11 13: |
| -Fluorophenol | | mg/l | 34.37 | 10-87 | WG533611 | 05/02/11 13: |
| Jitrobenzene-d5 | | mg/l | 68.49 | 12-120 | | 05/02/11 13: |
| Phenol-d5 | | mg/l | 23.12 | 10-67 | WG533611 | 05/02/11 13: |
| -Terphenyl-d14 | | mg/l | 121.6 | 34-149 | | 05/02/11 13: |
| | | | | | | |
| Pentachlorophenol | < .001 | mg/l | | | | 05/04/11 15: |
| 2,4,6-Tribromophenol | | mg/l | 60.82 | 10-148 | | 05/04/11 15: |
| ?-Fluorobiphenyl | | mg/l | 75.34 | 26-122 | | 05/04/11 15: |
| 2-Fluorophenol | | mg/l | 35.44 | 10-87 | | 05/04/11 15: |
| Jitrobenzene-d5 | | mg/l | 70.75 | 12-120 | | 05/04/11 15: |
| henol-d5 | | mg/l | 25.66 | 10-67 | | 05/04/11 15: |
| -Terphenyl-d14 | | mg/l | 88.46 | 34-149 | WG533676 | 05/04/11 15: |
| Pentachlorophenol | < .001 | mg/l | | | WG533851 | 05/04/11 13: |
| 2,4,6-Tribromophenol | | mg/l | 70.39 | 10-148 | WG533851 | 05/04/11 13: |
| -Fluorobiphenyl | | mg/l | 82.57 | 26-122 | WG533851 | 05/04/11 13: |
| ?-Fluorophenol | | mg/l | 26.86 | 10-87 | WG533851 | 05/04/11 13: |
| Jitrobenzene-d5 | | mq/l | 69.67 | 12-120 | WG533851 | 05/04/11 13: |
| Phenol-d5 | | mg/l | 18.10 | 10-67 | WG533851 | 05/04/11 13: |
| o-Terphenyl-d14 | | mg/l | 96.12 | 34-149 | WG533851 | 05/04/11 13: |
| Pentachlorophenol | < .001 | mg/l | | | WG534152 | 05/05/11 14: |
| 2,4,6-Tribromophenol | 1 .001 | mg/l | 94.18 | 10-148 | | 05/05/11 14: |
| 2-Fluorobiphenyl | | mg/l | 82.82 | 26-122 | | 05/05/11 14: |
| 2-Fluorophenol | | mg/l | 63.21 | 10-87 | | 05/05/11 14: |
| Witrobenzene-d5 | | mg/l | 75.92 | 12-120 | | 05/05/11 14: |
| Phenol-d5 | | mg/l | 53.85 | 10-67 | | 05/05/11 14: |
| o-Terphenyl-d14 | | mg/l | 137.5 | 34-149 | | 05/05/11 14: |
| | | | . 1.0.1 | | | |
| Analyte | Units | Laboratory Con Known Val | ntrol Sample Result | % Rec | Limit | Batch |
| HIGIYCE | UIIIUS | KIIOWII VAI | Result | ₹ KeC | DIMIL | BatCII |
| entachlorophenol | mg/l | .01 | 0.00440 | 44.0 | 20-122 | WG5336 |
| ,4,6-Tribromophenol | | | | 72.65 | 10-148 | WG5336 |
| -Fluorobiphenyl | | | | 85.95 | 26-122 | WG5336 |
| -Fluorophenol | | | | 49.62 | 10-87 | WG5336 |
| itrobenzene-d5 | | | | 87.06 | 12-120 | WG5336 |
| henol-d5 | | | | 41.38 | 10-67 | WG5336 |
| -Terphenyl-d14 | | | | 125.6 | 34-149 | WG5336 |
| 2 | | 0.1 | 0.00017 | 01 7 | 20 100 | Maessa |
| Pentachlorophenol | mg/l | .01 | 0.00817 | 81.7 | 20-122 | WG5336 |
| 2,4,6-Tribromophenol | | | | 90.22 | 10-148 | WG5336 |
| 2-Fluorobiphenyl | | | | 90.94 | 26-122 | WG5336 |

^{2,4,6-}Tribromophenol 90.22
2-Fluorobiphenyl 90.94

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



Hillsboro, OR 97124

Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Quality Assurance Report Level II 12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

WG533676

Est. 1970

May 10, 2011 L513596

| Analyte | Units | Known Val | Control Sample Result | % Rec | т 4 | mit | Batch |
|-------------------------------------------------|---------|---------------|--------------------------|-----------------|------|---------------|------------------|
| Alialyce | UIIICS | KIIOWII VAI | Result | ∘ KeC | 111 | .IIII C | Batti |
| 2-Fluorophenol | | | | 34.14 | 10 | 1-87 | |
| Nitrobenzene-d5 | | | | 81.79 | 12 | -120 | |
| Phenol-d5 | | | | 22.44 | 10 | 1-67 | |
| o-Terphenyl-d14 | | | | 110.8 | 34 | -149 | |
| Pentachlorophenol | mg/l | .01 | 0.00476 | 47.6 | 20 | -122 | WG5336 |
| 2,4,6-Tribromophenol | 2. | | | 89.08 | 10 | -148 | WG5336 |
| 2-Fluorobiphenyl | | | | 84.95 | 26 | -122 | WG5336 |
| 2-Fluorophenol | | | | 36.45 | | -87 | WG5336 |
| Jitrobenzene-d5 | | | | 74.84 | 12 | -120 | WG5336 |
| Phenol-d5 | | | | 26.77 | | 1-67 | WG5336 |
| o-Terphenyl-d14 | | | | 96.26 | 34 | -149 | WG5336 |
| Pentachlorophenol | mg/l | .01 | 0.00765 | 76.5 | 2.0 | -122 | WG5338 |
| 2,4,6-Tribromophenol | 5, = | | 2122.22 | 104.6 | | -148 | WG5338 |
| 2-Fluorobiphenyl | | | | 82.38 | | -122 | WG5338 |
| 2-Fluorophenol | | | | 35.97 | | -87 | WG5338 |
| Nitrobenzene-d5 | | | | 68.60 | | -120 | WG5338 |
| Phenol-d5 | | | | 25.95 | | 1-67 | WG5338 |
| p-Terphenyl-d14 | | | | 95.56 | | -149 | WG5338 |
| Pentachlorophenol | mg/l | .01 | 0.00904 | 90.4 | 2.0 | -122 | WG5341 |
| 2,4,6-Tribromophenol | ilig/1 | .01 | 0.00904 | 98.21 | | 1-148 | WG5341 |
| 2-Fluorobiphenyl | | | | 86.78 | | -122 | WG5341 |
| 2-Fluorophenol | | | | 58.08 | | 1-87 | WG5341 |
| Nitrobenzene-d5 | | | | 81.90 | | 1-120 | WG5341 |
| Phenol-d5 | | | | 47.07 | | :-120 I-67 | WG5341 WG5341 |
| p-Terphenyl-d14 | | | | 115.0 | | -149 | |
| p-lerphenyl-d14 | | | | 115.0 | 34 | :-149 | WG5341 |
| | | • | ol Sample Duplicate | | | -1.1. | |
| Analyte | Units | Result Ref | %Rec | Limit | RPD | Limit | Batch |
| Pentachlorophenol | mg/l | 0.00637 0.004 | 40 64.0 | 20-122 | 36.7 | 50 | WG5336 |
| 2,4,6-Tribromophenol | | | 88.51 | 10-148 | | | WG5336 |
| ?-Fluorobiphenyl | | | 86.85 | 26-122 | | | WG5336 |
| 2-Fluorophenol | | | 54.12 | 10-87 | | | WG5336 |
| Nitrobenzene-d5 | | | 96.21 | 12-120 | | | WG5336 |
| Phenol-d5 | | | 40.97 | 10-67 | | | WG5336 |
| -Terphenyl-d14 | | | 122.2 | 34-149 | | | WG5336 |
| Pentachlorophenol | mg/l | 0.00865 0.008 | 817 86.0 | 20-122 | 5.66 | 50 | WG5336 |
| 2,4,6-Tribromophenol | 5/ = | | 94.41 | 10-148 | | | WG5336 |
| 2-Fluorobiphenyl | | | 91.80 | 26-122 | | | WG5336 |
| 2-Fluorophenol | | | 36.83 | 10-87 | | | WG5336 |
| Nitrobenzene-d5 | | | 86.27 | 12-120 | | | WG5336 |
| Phenol-d5 | | | 25.73 | 10-67 | | | WG5336 |
| p-Terphenyl-d14 | | | 106.0 | 34-149 | | | WG5336 |
| Pentachlorophenol | mg/l | 0.00437 0.004 | 176 44.0 | 20-122 | 8.62 | 50 | WG5336 |
| 2,4,6-Tribromophenol | IIIG/ I | 0.0043/ 0.004 | 84.88 | 10-148 | 0.02 | 50 | WG5331 |
| | | | 82.23 | 26-122 | | | WG5336 |
| 2-Fluorobiphenyl | | | | | | | |
| 2-Fluorophenol | | | 37.79 | 10-87 | | | WG533 |
| Titrohongono dE | | | | | | | |
| | | | 70.67 | 12-120 | | | WG5336 |
| Nitrobenzene-d5 Phenol-d5 D-Torphonyl-d14 | | | 26.93 | 12-120 10-67 | | | WG533 |

p-Terphenyl-d14

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



Hillsboro, OR 97124

Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

May 10, 2011

12065 Lebanon Rd.

Est. 1970

Quality Assurance Report Level II

L513596

| | | | | Sample Dupl | | | | | |
|----------------------|---------|---------|----------|-------------|--------|--------|-------|------------|---------|
| Analyte | Units | Result | Ref | %Rec | | Limit | RPD | Limit | Batch |
| Pentachlorophenol | mg/l | 0.00820 | 0.0076 | 5 82.0 | | 20-122 | 6.94 | 50 | WG53385 |
| 2,4,6-Tribromophenol | 5, - | | | 106.9 | | 10-148 | | | WG53385 |
| 2-Fluorobiphenyl | | | | 87.10 | | 26-122 | | | WG53385 |
| 2-Fluorophenol | | | | 35.78 | | 10-87 | | | WG53385 |
| Nitrobenzene-d5 | | | | 70.97 | | 12-120 | | | WG53385 |
| Phenol-d5 | | | | 25.44 | | 10-67 | | | WG5338 |
| p-Terphenyl-d14 | | | | 95.74 | | 34-149 | | | WG5338 |
| Pentachlorophenol | mg/l | 0.00831 | 0.0090 | 4 83.0 | | 20-122 | 8.45 | 50 | WG53419 |
| 2,4,6-Tribromophenol | | | | 91.39 | | 10-148 | | | WG53415 |
| 2-Fluorobiphenyl | | | | 80.98 | | 26-122 | | | WG53415 |
| 2-Fluorophenol | | | | 58.25 | | 10-87 | | | WG5341 |
| Nitrobenzene-d5 | | | | 74.15 | | 12-120 | | | WG5341 |
| Phenol-d5 | | | | 51.68 | | 10-67 | | | WG5341 |
| p-Terphenyl-d14 | | | | 105.3 | | 34-149 | | | WG53415 |
| | | | | | | | | | |
| Analyte | Units | MS Res | Matrix : | | % Rec | Limit | | Ref Samp | Batch |
| Analyte | 0111125 | PID RCB | KCI K | CB IV | 8 RCC | Бішіс | | RCI Ballip | Daten |
| Pentachlorophenol | mg/l | 0.00840 | 0 | .01 | 84.0 | 0-137 | | L513596-04 | WG5336 |
| 2,4,6-Tribromophenol | | | | | 78.45 | 10-148 | 3 | | WG53361 |
| 2-Fluorobiphenyl | | | | | 91.84 | 26-122 | 2 | | WG5336 |
| 2-Fluorophenol | | | | | 28.45 | 10-87 | | | WG5336 |
| Nitrobenzene-d5 | | | | | 83.09 | 12-120 |) | | WG5336 |
| Phenol-d5 | | | | | 20.56 | 10-67 | | | WG5336 |
| p-Terphenyl-d14 | | | | | 115.7 | 34-149 | 9 | | WG5336 |
| | | Matr | ix Spike | Duplicate | | | | | |
| Analyte | Units | | Ref | %Rec | Limit | RPD | Limit | Ref Samp | Batch |
| Pentachlorophenol | mg/l | 0.00895 | 0.00840 | 89.5 | 0-137 | 6.42 | 50 | L513596-04 | WG5336 |
| 2,4,6-Tribromophenol | | | | 77.64 | 10-148 | | | | WG5336 |
| 2-Fluorobiphenyl | | | | 94.14 | 26-122 | | | | WG5336 |
| 2-Fluorophenol | | | | 31.73 | 10-87 | | | | WG5336 |
| Nitrobenzene-d5 | | | | 83.66 | 12-120 | | | | WG5336 |
| Phenol-d5 | | | | 22.89 | 10-67 | | | | WG5336 |
| p-Terphenyl-d14 | | | | 110.6 | 34-149 | | | | WG5336 |
| | | | | | | | | | |

Batch number /Run number / Sample number cross reference

WG533677: R1670132: L513596-08 09 10 12 13 14 15 WG533611: R1672209: L513596-01 02 04 05 17 19 20 21

WG533676: R1675129: L513596-06 07 WG533851: R1675133: L513596-03 16 18 WG534152: R1676731: L513596-11

 $^{^{\}star}$ * Calculations are performed prior to rounding of reported values.

^{*} Performance of this Analyte is outside of established criteria. For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



Oregon Dept. of Env. Quality - ODEQ Stephanie Bosze 3150 NW 229th St., Suite 150

Quality Assurance Report Level II

Hillsboro, OR 97124

May 10, 2011 L513596

12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859 Tax I.D. 62-0814289

Est. 1970

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate — is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

| | | Billi | ng information | n: | | 1 | Ana | alysis/Con | tainer | Preşer | vative |) | Chain of Custody |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------|---------------------------|-----------------------------------------|--------------------|---------------------------------------|------------|--------|--------|--------|----|-------------------------------------------------------------------|
| Oregon Dept. of En | nv. Qualit | | | | | | | | | | | | Page |
| ODEQ 3150 NW 229th St St | ACTUAL OF ANY - CARDON STATES OF THE STATES | · c | | lwick - ODI xth Avenue | 50-54-5 15 | | , , , , , , , , , , , , , , , , , , , | | | | | | -4ECC |
| Hillsboro,OR 97124 | | F | ortiand,O | R 97204 | | | * | | | | | 8 | |
| 25 (R SE SE | | 945 | | | | | 3 | 18 | | | | | LIAIB SIGITE-NICIEIS |
| nort to | | : En | nail: | | | | ONLY | | | | | | 12065 Lebanon Road |
| Stephanie Bosze | 198 1985 198 | | | ing.brian@ | deq.state.c | r.us; | 92 | | 2 | | | | Mt. Juliet, TN 37122 |
| ect cription: Taylor Lumber | | | City/State Collected | SHERIDAL | 1, DR | | es (P | | | | | | Phone: (800) 767-5859 Phone: (615) 758-5858 |
| ine: (503) 693-5745 | Client Project # | | 11/2/0/2014/0/0001 | roject # | 0.0000000000000000000000000000000000000 | | l q | | | | | | Fax: (615) 758-5859 |
| (503) 373-1626 | 1843-00 | 180000-00000 | ORE | GONDEQ- | TAYLOR | LU | | 88 | | | | 1 | B119 |
| ected by (print): MICHAEL WHITSON | Site/Facility ID# | i | P O.#. | | | | Amb-NoPres | | | | | | |
| ected by (Agnature) | Same Day . | (Lab MUST Be | .200% | Date Resul | ts Needed | | 11 | | | | | | Acctnum OREGONDEO (lab use only) Template/Prelogin T70883/ P35290 |
| rediately ked on ice N _ Y | Two Day | | 50% | Email?N | o X_Yes | No. of Cntrs | SV\$270PCP | | | | | | Cooler # 4-13D Shipped Via: FedEX Ground |
| Sample ID | Comp/Grab | Matrix* | Depth | Date | Time | Tomis | SV | Ď. | | | | Ì | Remarks/Contaminant Sample # (lab onl |
| Z-105 | GRAB | GW | | 04/26 | 1015 | 20 | X | | | | | | 1513596 |
| IW-15.5 | 13 | GW | | 04/26 | 1145 | 720 | X | | | | | | 0 |
| MW-135 | -11 | GW | | 04/26 | 1300 | 2 | X | | | | | | |
| W-125 | 11 | GW | 2) | 04/26 | 1410 | 2 | X | | | | | | |
| NW-060 | | GW | 62 62 | 04/26 | 1510 | 20 | X | 12 SEC 1 | | | | | |
| 1w-065 | i in | GW | | 04/26 | 1620 | 2 | X | | | | | | |
| in-065 out | 13 | GW | | H/26 | 1620 | 2 | X | | | 80 | | | |
| IW-065 MS | Ω | GW | | 04/26 | 1620 | 2 | X | | | | | 88 | |
| IW-065 MSD | ls | GW | | 04/26 | 1620 | 2 | X | | | | | | -4 |

| | | В | illing information | n; | | | Ana | alysis/Contai | ner/Prese | rvative |) | Chain of Custody |
|----------------------------------------------|------------------------------|--------------|---------------------------|-------------------------------------------|---------------|--------|---------------|---------------|-------------|---------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oregon Dept. of En | ıv. Qualit | 97 | | | | | | | | | | Page <u>Jof 3</u> |
| | | | Delia Chad | lwick - ODI | FO | | | | | | | |
| ODEO 3150 NW 229th St., St | rite 150 | 1 00 | 811 SW Si | | | | | | • | | | |
| Hillsboro, OR 97124 | | | | | | | X | | | | | MITCO |
| 1111155010,01077124 | | | Portland,O | R 97204 | | | 2 | | | | | |
| | | | | | | | ONLY | | | | | LAB SICHENICES |
| Report to: | 200000 | | mait | 47 WY 45075 47485 | Service de se | | 9 | 15 | | | | 12065 Lebanon Road |
| Stephanie Bosze | | | 1000 | ing.brian@ | deq.state. | or.us: | \$ | 86 | | | | Mt. Juliet, TN 37122 |
| Project Description: Taylor Lumber | | | ` City/State Collected | : :::::::::::::::::::::::::::::::::::: | | | | | 100 | | | Phone: (800) 767-5859 |
| · · · · · · · · · · · · · · · · · · · | Client Project # | | Lab Pr | SHERIOI | AN, OK | | res | | 28 25 28 | | | Phone: (615) 758-5858 Fax: (615) 758-5859 |
| Phone: (503) 693-5745 FAX: (503) 373-1626 | \$.03 | | | GONDEQ | -TAYLOR | HH | 19 | | 4 | | | (44.(644).66 3652 |
| FAX: (503) 373-1626 Collected by (print): | 1843-00 Site/Facility ID# | | | JOSHBEQ | | | 2 | | | | - 5 | |
| MICHAEL WHITSON | | | P.O.#: | | <u> </u> | | 1L-Amb-NoPres | | | | | 3 |
| collected by (signature): | | (Lab MUST B | | Date Resu | lts Needed | |] <u>-</u> | | | | | Acctnum OREGONDEO lab use only |
| MMU 4/12 > | 2 | | | 1511841 (\$000 1 1708 1981 | | | | | | | | Template/Prelogin T70883/ P3529 |
| nmediately acked on Ice N _ Y _ | Second | | | Email?N | to X Yes | No. | [종] | | | 8 | | Cooler #: U-1303 |
| acred on rec 14 1 | 1888/160 | | | FAX? _N | 00.00 | of | V8270PCP | | è | | | Shipped Via: FedEX Ground |
| Sample ID | Comp/Grab | Matrix* | Depth | Date | Time | Cntrs | SV | | | | 35 | Remarks/Contaminant Sample # (lab or |
| MW-95 | GRAB | GW | | 04/26 | 1750 | 20 | X | | | | | 1513596 |
| MW-165 | n | GW | | 04/27 | D\$00 | 20 | | 20 | | | 28 | |
| MW-165 DUP | 11 | GW | | 04/27 | 0800 | 20 | X | | | · · · · · · · · · · · · · · · · · · · | | |
| PZ+10Z | 14 | GW | 2100000000 | 04/27 | 0850 | 2 | X | | | | 27.00 | |
| MW-1035 | H | GW | | 04/27 | 0950 | 2 | X | | R & 3 | | ** ** | |
| MW-205 | ** | GW | | 04/27 | 1045 | 2 | X | | | 8 | | |
| MW-195 | 4 | GW | | 04/27 | 1150 | 2 | X | | 1 1 | | | |
| | v | GW | | 04/27 | 1300 | 2 | X | | | | e | |
| PZ-101 | | | 1 | 04/27 | 1400 | 2 | X | | 72457 | 1 | | A SEC TO SECTION SEC TO SECTION SEC TO SEC T |

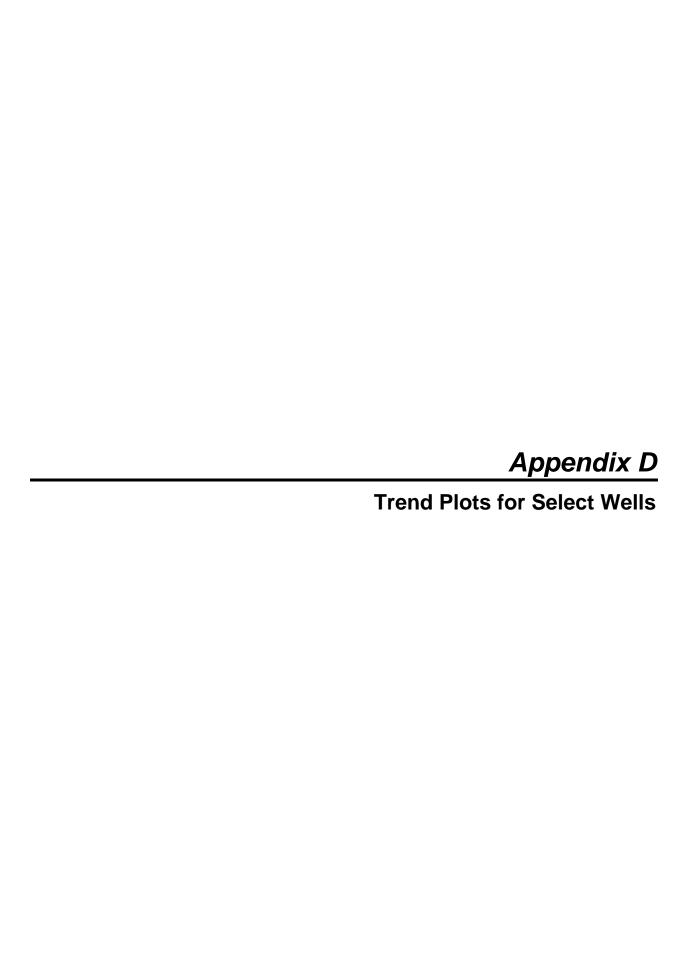
| Relinquished by: (Signature MCHAEL WHITSON | Date: 04/27 | Time. 2045 | Received by: (Signature) | Samples returned via: ☐ UPS FedEx ☐ Courier ☐ | Condition: | (lab use only) |
|----------------------------------------------|----------------|--------------|---------------------------------|------------------------------------------------|------------------|----------------|
| Relinquished by (Signature) Stephonic Bosses | Date: 4/128/11 | Time /SUC | Received by: (Signature) | Temp:, Bottles Received: | COC Seal Intact: | |
| Refinquished by: (Signature) | Date: | Time. | Received for lab by (Signature) | Date: Time: 4/29/11 0830 | pH Checked: | NCF: |
| | | 0 | | | | 11.11 |

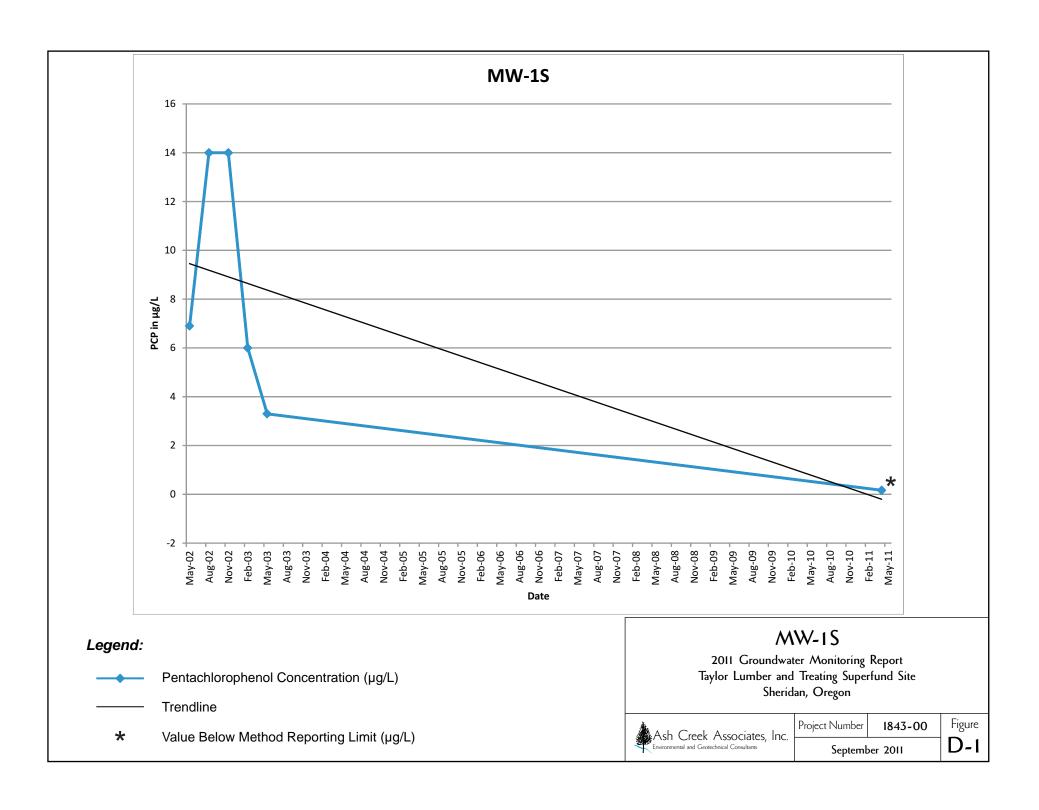
| | a North and a north and a | 26.30 | ling information | on: | | | Ana | alysis/Cor | tainer/ | reserv | ative | - | Chain of Custody Pageof |
|------------------------------------------------------------------------------|-------------------------------|---------------------------------------|---------------------|----------------------------------------|---------------------------------------|----------|------------|------------|-----------------|----------|-----------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oregon Dept. of Env ODEO 3150 NW 229th St., Sui- Hillsboro,OR 97124 | 50996 | | | dwick - ODI ixth Avenue DR 97204 | | | * (KINO | | | | | | Page Of O |
| Report to: Stephanie Bosze | | E | mail: | ling.brian@ | den state (| יאר וופי | | | | | | 21 | 12065 Lebanon Road Mt. Juliet, TN 37122 |
| roject escription: Taylor Lumber | 74. | | City/Sta | te | | 71.431 | E. | | | | 35 | | Phone: (800) 767-5859 |
| | Client Project # | * | lah F | d SHEPLO Project# | HN, OK | | l se | | | | ě | | Phone: (615) 758-5858 Fax: (615) 758-5859 |
| thone: (503) 693-5745 AX: (503) 373-1626 | 1843-00 | A. | 166 | EGONDEQ- | TAYLOR | LU | Amb-NoPres | | | | | | |
| ollected by (print): MICHAEL WHITSON | Site/Facility ID# | | P.O.# | : | | | di l | 2. | | | | | |
| ollected by signature): nmediately acked on Ice N _ Y _ | Same Day . Next Day Two Day | (Lab MUST B | 200% 100% 50% | Date Resul | lo X _{Yes} | No. | 270PCP 1L- | 22.0 | | | | | Acctnum OREGONDEO Template/Prelogin T70883/ P3529 Cooler #: 4 3 5 Shipped Via: FedEX Ground |
| Sample ID | Comp/Grab | Matrix* | Depth | Date | Tirne | Cntrs | SV | | | | | | Remarks/Contaminant Sample # (lab |
| MW-115 | GRAB | GW | | 04/27 | 1500 | 2 | X | 1 | | | | | LS13596 |
| MW-255 | 33 | GW | | 04/27 | 1610 | 2 | X | | | | | | |
| PW-01 | Ħ | GW | | 04/27 | 1725 | 2 | X | | | 3 | | | |
| DUPLICATE AW MW-105 | H | GW | | 04/27 | 1745 | 2 | X | | | | | | |
| BUPLICATE MW - 245 | 1ţ | GW | | 04/27 | 1835 | 2 | X | | | | | 33. | 200 STORY 200 ST |
| -MS/MSD MV | 300 | GW | 5 | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 2 | X | 100 | | | | | N 82000 |
| | G Inclose | GW | | | | 2 | X | | | . W. 584 | vr (15)1086 | | |
| | | | | | | | | | | 4 | | | |
| Matrix: SS - Soil GW - Groundwater WW - | - WasteWater D | W - Drinkina Wa | ater OT - Oth | er | | <u> </u> | | | | | pH | 9 | Temp |
| | | | | | id (F | al y | is Low | deno | ted. -10. | nly) | | | |
| Relinquished by: (Signature) | Date: | 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | F Rece | ived by: (Signati | ure) | | - 18 | S | Samples Fed! | returne | d via: urier | □ UPS | Condition: (lab use only |
| Relinquished by (Signature) | 1.7 | 150 /50 | | ived by: (Signat | *** | | | | 2,92 | į | 3 | Received 5 | COC Seal Intact: Y N |
| Relinquished by: (Signature) | Date: | Time: | Receiv | ed for lab by (S | ionature) | 724 TW | | | Date: | | Time: | | pH Checked: NCF: / |

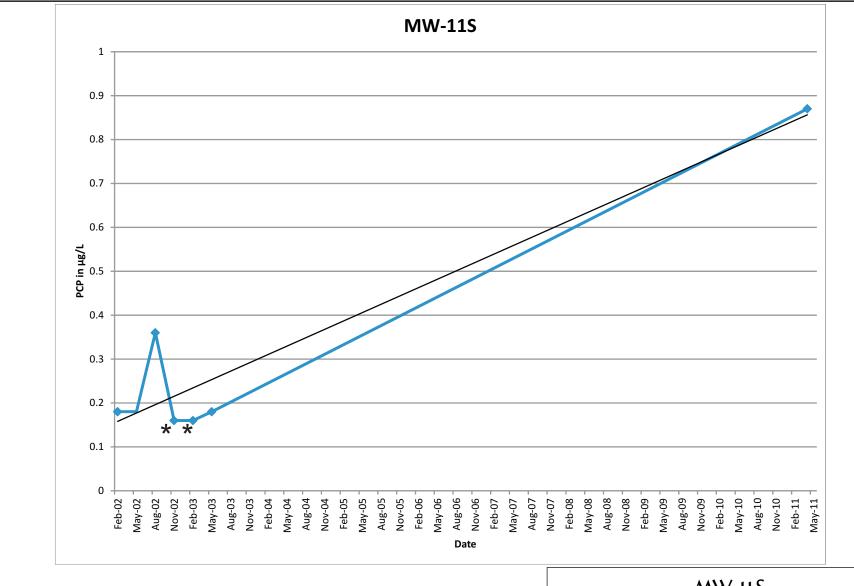


NON-CONFORMANCE FORM

| Login No. | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Date: 4/20/11 | |
| Evaluated by: Jeremy Watk | ins |
| Client: OREGON DEQ | |
| | |
| Non-Conformance (check app | olicable items) |
| ☐ Parameter(s) past holding time | ▼ Login Clarification Needed |
| □ Improper temperature | ☐ Chain of custody is incomplete |
| □ Improper container type | ☐ Chain of Custody is missing (see below) |
| Improper preservation | □ Broken container(s) (See below) |
| □ Container lid not intact | ⊘ ☑ Broken container: sufficient sample |
| | volume remains for analysis requested (See below) |
| If no COC: Received by | Insufficient packing material inside cooler Improper handling by carrier (FedEx / UPS / Counter) |
| Comments: Received 1-11:16 Did not receive 5. or MW-165 Dup. | reples for PZ105, MW-06P, MW-95, MW-165 |
| Login Instructions: | TSR Initials: TW |
| Client informed by call / email / fax Client contact: Stephanie Bosz | |
| 1) Clear infrared Rue to | an remains volume. |
| 2) Client showed 5 cooler | on remaining volume. 15, and we received 4, 50, there should be |
| The state of the s | n malal |
| one more copier That | NE TECEINED, |
| - Missing cooler was delay | ed in Monghis. It should arrive saturday |
| or Monday, Lag al | i with the property |







Legend:

Pentachlorophenol Concentration (µg/L)

Trendline

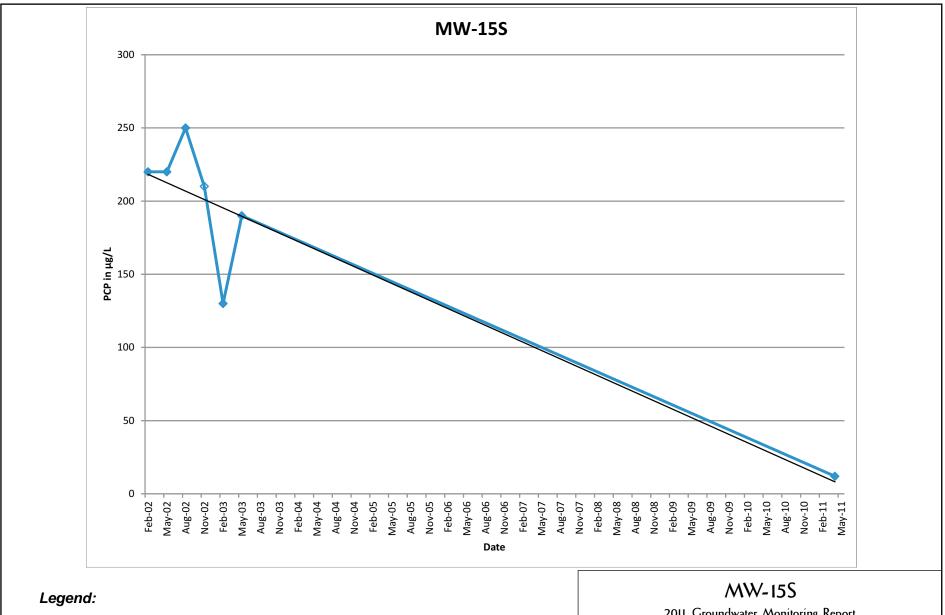
*

Value Below Method Reporting Limit (µg/L)

MW-11S

| | P |
|--------------------------------------------|---|
| Ash Creek Associates, Inc. | H |
| Environmental and Geotechnical Consultants | |

| | Project Number | 1843-00 | Figure |
|---|----------------|----------|--------|
| • | Septeml | per 2011 | D-2 |



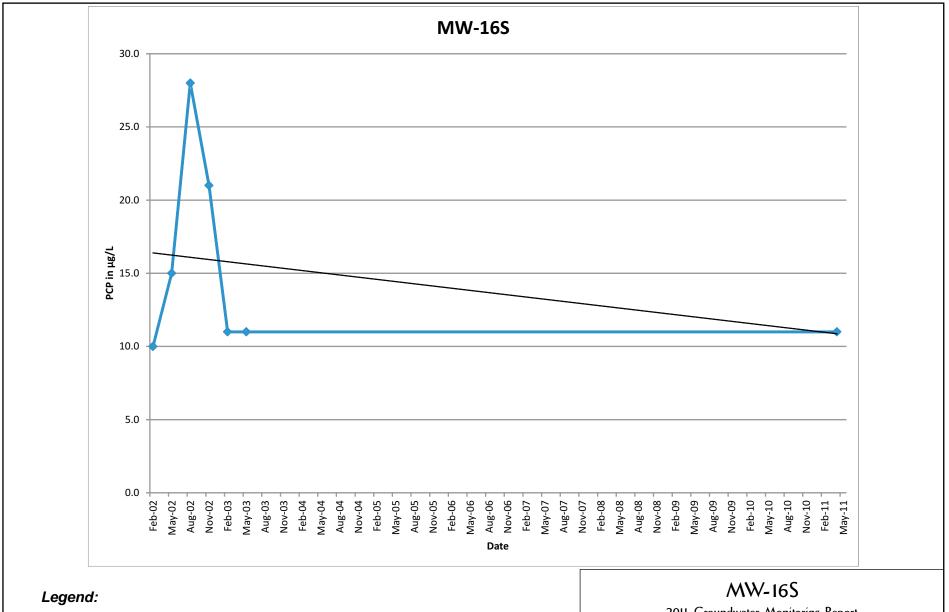
-

Pentachlorophenol Concentration (µg/L)

---- Trendline



| | Project Number | 1843-00 | Figure |
|---|----------------|----------|--------|
| • | Septemb | per 2011 | D-3 |



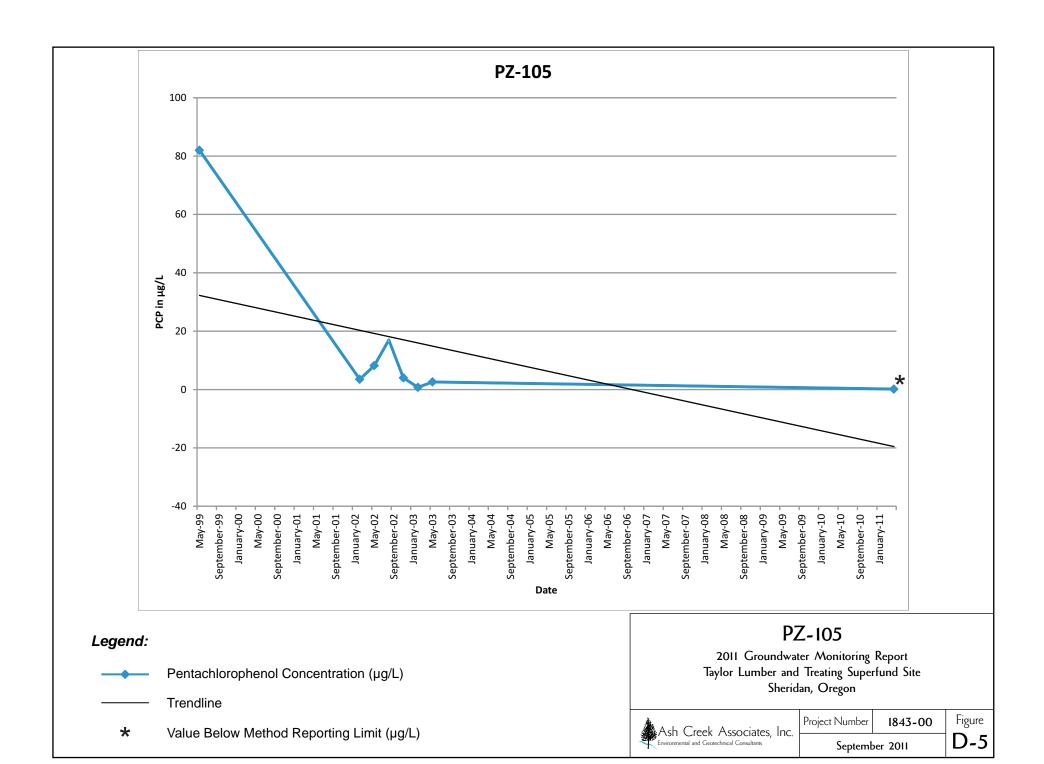
-

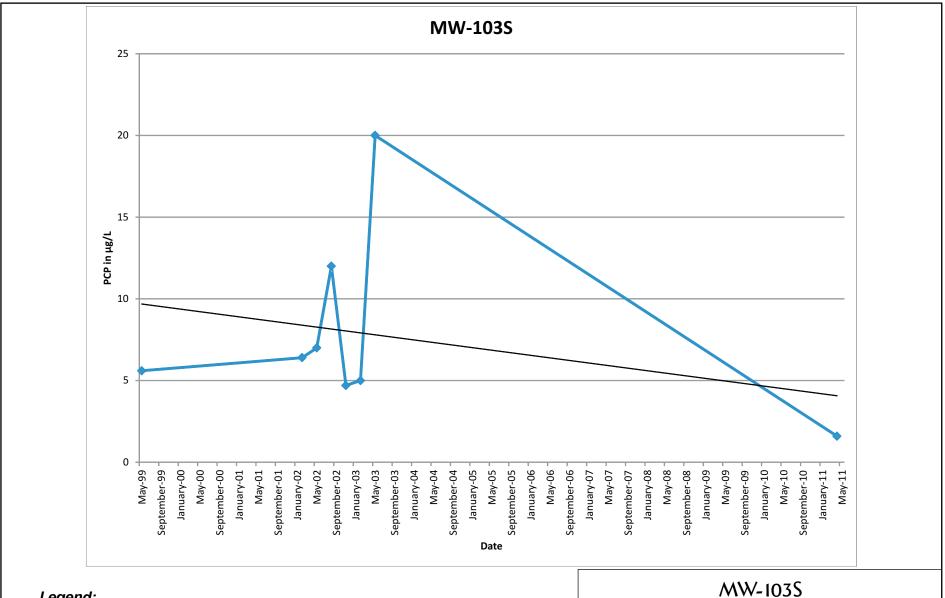
Pentachlorophenol Concentration (µg/L)

Trendline



| Project Number | 1843-00 | Figure |
|----------------|----------|--------|
| Septemb | per 2011 | D-4 |





Legend:

Pentachlorophenol Concentration (µg/L)

Trendline



| | Project Number | 1843-00 | Figure |
|---|----------------|----------|--------|
| • | Septemb | per 2011 | D-6 |